

GenCore version 5.1.1.6
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OM protein - protein search, using sw model

Run on: July 12, 2004, 13:01:43 ; Search time 21 Seconds
(without alignments)
925.271 Million cell updates/sec

Title: US-09-856-796B-2
Perfect score: 1047
Sequence: 1 MATGRTSLLAFGLLCLPW.....KVETFLRVQKRSVSGSGF 202

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283366 seqs, 96191526 residues
Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR 78:*
1: Pirl:*
2: pirl2:*
3: pirl3:*
4: pirl4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1024.5	97.9	217	1	STHU
2	981.5	93.7	217	1	somatotropin 1 pre
3	939.5	89.7	217	1	somatotropin - rhe
4	873.5	83.4	217	2	somatotropin 2 pre
5	872.5	83.3	217	1	chorionamotropin
6	866.5	82.8	217	1	chorionamotropin
7	850.5	81.2	217	2	chorionic somatoma
8	843.5	80.6	217	2	chorionic somatoma
9	842.5	80.5	215	2	somatotropin - rhe
10	831.5	79.4	212	2	chorionamotropin
11	779.5	74.5	199	2	chorionamotropin
12	698	66.7	216	2	chorionamotropin
13	694	66.3	216	1	somatotropin pre
14	687	65.6	216	2	somatotropin pre
15	682	65.1	216	2	somatotropin pre
16	682	65.1	216	2	somatotropin pre
17	679	64.9	216	1	somatotropin - gol
18	677	64.7	217	1	somatotropin pre
19	672	64.2	216	2	somatotropin pre
20	666	63.6	217	1	somatotropin pre
21	666	63.6	217	1	somatotropin pre
22	666	63.6	217	1	somatotropin pre
23	661	63.1	216	1	somatotropin - dom
24	614	58.6	256	1	somatotropin pre
25	603	57.6	190	2	somatotropin 2 pre
26	602	57.5	190	2	somatotropin - Afr
27	601	57.4	190	2	somatotropin - sei
28	598	57.1	190	2	somatotropin - alp
29	596	56.9	190	1	somatotropin - Arc

30	551	52.6	216	2	S04929	somatotropin precu
31	550	52.5	216	2	A60509	somatotropin precu
32	542	51.8	216	2	JC1514	somatotropin precu
33	536	51.2	191	2	A60625	somatotropin - gre
34	480	45.8	190	2	S21750	somatotropin - Rus
35	471.5	45.0	215	2	JS0037	somatotropin precu
36	467.5	44.7	215	2	IS1188	somatotropin - bul
37	465	44.4	195	2	IS1250	somatotropin - bow
38	449	42.9	190	2	A56816	somatotropin - bul
39	421.5	40.3	163	2	JN0387	somatotropin - sei
40	394.5	37.7	139	2	S04353	somatotropin A - A
41	386.5	36.9	209	2	JT0483	somatotropin I pre
42	374.5	35.8	183	2	A60623	somatotropin - blu
43	279.5	26.7	210	2	IS0763	somatotropin - nob
44	279.5	26.7	210	2	S21915	somatotropin - sil
45	278.5	26.6	210	2	S69262	growth hormone I p

ALIGNMENTS

RESULT 1

STHU

somatotropin 1 precursor [validated] - human
N:Alternate names: growth hormone 1; hGH-N; pituitary somatotropin
N:Contains: growth hormone 5K peptide; somatotropin 1, long form; somatotropin 1, short form
C:Species: Homo sapiens (man)
C:Date: 24-Apr-1984 #sequence revision 10-Feb-1995 #text change 08-Dec-2000
C:Accession: A93731; A32435; A93694; A94247; A90051; A93397; A93778; A91764; A90217; A92343
R:DeNoto, F.M.; Moore, D.D.; Goodman, H.M.
Nucleic Acids Res. 9, 3719-3730, 1981
A:Title: Human growth hormone DNA sequence and mRNA structure: possible alternative splicing
A:Reference number: A93731; MUID:82014939; PMID:6269091
A:Accession: A93731
A:Molecule type: DNA
A:Residues: 1-217 <DEN>
A:Cross-references: GB:V00520
A:Note: the 20K short form somatotropin lacks residues 58-72 (32-46 in the active hormone)
R:Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
Genomics 4, 479-497, 1989
A:Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A:Reference number: A32435; MUID:89307277; PMID:2744760
A:Accession: A32435
A:Molecule type: DNA
A:Residues: 1-217 <CHE>
A:Cross-references: GB:J03071; NID:g183148; PIDN:AAA52549.1; PID:g183149
R:Roskam, W.; Rougeon, F.
Nucleic Acids Res. 7, 305-320, 1979
A:Title: Molecular cloning and nucleotide sequence of the human growth hormone structure
A:Reference number: A93694; MUID:80034477; PMID:386281
A:Accession: A93694
A:Molecule type: mRNA
A:Residues: 1-217 <ROS>
A:Cross-references: GB:V00519
A:Note: 35-Pro was also found
R:Martial, J.A.; Halliwell, R.A.; Baxter, J.D.; Goodman, H.M.
Science 205, 602-607, 1979
A:Title: Human growth hormone: complementary DNA cloning and expression in bacteria.
A:Reference number: A94247; MUID:79203293; PMID:377496
A:Accession: A94247
A:Molecule type: mRNA
A:Residues: 1-217 <MAR>
R:Li, C.H.; Dixon, J.S.; Liu, W.K.
Arch. Biochem. Biophys. 133, 70-91, 1969
A:Title: Human pituitary growth hormone. XIX. The primary structure of the hormone.
A:Reference number: A90048; MUID:69289202; PMID:5810834
A:Contents: annotation
R:Li, C.H.; Dixon, J.S.
Arch. Biochem. Biophys. 146, 233-236, 1971
A:Title: Human pituitary growth hormone. XXXII. The primary structure of the hormone: re
A:Reference number: A90051; MUID:72143935; PMID:5144027
A:Accession: A90051
A:Molecule type: protein

A;Residues: 27-94;96-217 <LTC>
R;Niall, H.D.
Nature New Biol. 230, 90-91, 1971
A;Title: Revised primary structure for human growth hormone.
A;Reference number: A93397; MUID:71139765; PMID:5279046
A;Accession: A93397
A;Molecule type: protein
A;Residues: 27-51 <NIA>
R;Niall, H.D.; Hogan, M.L.; Sauer, R.; Rosenblum, I.Y.; Greenwood, F.C.
Proc. Natl. Acad. Sci. U.S.A. 68, 866-869, 1971
A;Title: Sequences of pituitary and placental lactogenic and growth hormones: evolution
A;Reference number: A93778; MUID:71153968; PMID:5279528
A;Accession: A93778
A;Molecule type: protein
A;Residues: 119-120;157-159 <N12>
R;Niall, H.D.
in Prolactin and Carcinogenesis, Proc. Fourth Tenovus Workshop Prolactin, Griffiths, K.,
A;Title: The chemistry of the human lactogenic hormones.
A;Reference number: A94427
A;Contents: annotation; somatotropin revision
R;Bewley, T.A.; Dixon, J.S.; Li, C.H.
Int. J. Pept. Protein Res. 4, 281-287, 1972
A;Title: Sequence comparison of human pituitary growth hormone, human chorionic somatoma
A;Reference number: A91764; MUID:73092028; PMID:4675454
A;Accession: A91764
A;Molecule type: protein
A;Residues: 27-217 <BEW>
R;Lewis, U.J.; Bonewald, L.F.; Lewis, L.J.
Biochem. Biophys. Res. Commun. 92, 511-516, 1980
A;Title: The 20,000-dalton variant of human growth hormone: location of the amino acid d
A;Reference number: A90217; MUID:80130196; PMID:7356479
A;Contents: somatotropin, 20K short variant
A;Accession: A90217
A;Molecule type: protein
A;Residues: 46-57;73-80 <LEW>
R;Chapman, G.E.; Rogers, K.M.; Brittain, T.; Bradshaw, R.A.; Bates, O.J.; Turner, C.; Ca
J. Biol. Chem. 256, 2395-2401, 1981
A;Title: The 20,000 molecular weight variant of human growth hormone. Preparation and so
A;Reference number: A92311; MUID:8117361; PMID:7462247
A;Contents: somatotropin, 20K short variant
A;Accession: A92311
A;Molecule type: protein
A;Residues: 27-57;73-79 <CHA>
R;Singh, R.N.P.; Seavey, B.K.; Lewis, L.J.; Lewis, U.J.
J. Protein Chem. 2, 425-436, 1983
A;Title: Human growth hormone peptide 1-43: isolation from pituitary glands.
A;Reference number: A61466
A;Accession: A61466
A;Molecule type: protein
A;Residues: 27-69 <SIN>
A;Note: growth hormone 5K peptide has insulin potentiating activity; its physiological p
R;Robson, V.M.J.; Rae, I.D.; NG, F.
Biochem. Chem. Hoppe-Seyler 371, 423-431, 1990
A;Title: Identification of the aspartimide structure in a previously-reported peptide.
A;Reference number: S09685; MUID:90334745; PMID:2378679
A;Accession: S09685
A;Molecule type: protein
A;Residues: 27-34, 'L', 36-47 <ROB>
R;de Vos, A.M.; Uitsch, M.; Kossiakoff, A.A.
Science 255, 306-312, 1992
A;Title: Human growth hormone and extracellular domain of its receptor: crystal structu
A;Reference number: A41728; MUID:92196577; PMID:1549776
A;Contents: annotation; X-ray crystallography, 2.8 angstroms
A;Note: the structure of the complex with growth hormone receptor is described
R;Gray, G.L.; Baldrige, J.S.; McKown, K.S.; Heyneker, H.L.; Chang, C.N.
Gene 39, 247-254, 1985
A;Title: Periplasmic production of correctly processed human growth hormone in Escherich
A;Reference number: I41126; MUID:86137393; PMID:3912261
A;Accession: I84549
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-26 <RES>
A;Cross-references: GB:M14398; NID:G183158; PIDN:AAA52554.1; PID:G183159

C;Comment: The gene for this hormone is transcribed only in somatotrophic cells of the
C;Comment: About 90% of somatotropin is the 22K long form.
A;Gene: GDB:GH1
A;Cross-references: GDB:119982; OMIM:139250
A;Map position: 17q23.1-17q23.3
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: alternative splicing; hormone; pituitary
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-217/Product: somatotropin 1, long form #status experimental <SOL>
F;27-69/Product: growth hormone 5K peptide #status experimental <SKP>
F;27-57,73-217/Product: somatotropin 1, short form #status experimental <SOS>
F;79-191,208-215/Disulfide bonds: #status experimental
Query Match 97.9%; Score 1024.5; DB 1; Length 217;
Best Local Similarity 92.6%; Pred. No. 1.2e-86;
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;
Qy 1 MATGSR TSLLLAFGLLCLPWLQEGSAFPTPLSLFDNASLRHRLHQLAFDTYQEF--- 57
Db 1 MATGSR TSLLLAFGLLCLPWLQEGSAFPTPLSLFDNAMLRAHRLHQLAFDTYQEP 60
Qy 58 -----NPQTSLCFSESIPTPSNRRETOCKNLELLRISLLLIQSWLBPVQFLR 105
Db 61 YIPKEQKYQYFLQNPQTSLCFSESIPTPSNRRETOCKNLELLRISLLLIQSWLBPVQFLR 120
Qy 106 SVFANSIVYGASDSNVYDLKDLKEEGIQTLMGRLDGSPRTGQIFKQYKSFDFNSHND 165
Db 121 SVFANSIVYGASDSNVYDLKDLKEEGIQTLMGRLDGSPRTGQIFKQYKSFDFNSHND 180
Qy 166 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSGCF 202
Db 181 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSGCF 217
RESULT 2
167410
somatotropin - rhesus macaque
N;Alternate names: growth hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 16-Jul-1999
C;Accession: I67410; A05094
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomotropin-related complementa
A;Reference number: 153267; MUID:94008724; PMID:8404617
A;Accession: I67410
A;Status: translated from GB/EMBL/DBDJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: GB:L16556; NID:G293114; PIDN:AAA18942.1; PID:G293115
R;Li, C.H.; Chung, D.; Lahm, H.W.; Stein, S.
Arch. Biochem. Biophys. 245, 287-291, 1986
A;Title: The primary structure of monkey pituitary growth hormone.
A;Reference number: A05094; MUID:86129460; PMID:3080959
A;Accession: A05094
A;Molecule type: protein
A;Residues: 27-99, 'Q', 101-178, 'D', 180-217 <LIC>
A;Note: the monkey species is not identified in the reference
R;Raben, M.S.
Science 125, 883-884, 1957
A;Title: Preparation of growth hormone from pituitaries of man and monkey.
A;Reference number: A44774
A;Contents: annotation; identification of source organism
C;Superfamily: prolactin
Query Match 93.7%; Score 981.5; DB 2; Length 217;
Best Local Similarity 88.9%; Pred. No. 1e-82;
Matches 193; Conservative 3; Mismatches 6; Indels 15; Gaps 1;
Qy 1 MATGSR TSLLLAFGLLCLPWLQEGSAFPTPLSLFDNASLRHRLHQLAFDTYQEF--- 57

Db 1 MAAGSRTSLLLAFALLCLPWLQEGSAFPTPLSRFLDNAMLRHLHQLAFDTYQEFEEA 60

QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
 |||||
 Db 61 YIPKQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 120
 |||||

QY 106 SVFANSLVYGASDSNVYDLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFTDTSNHNDD 165
 |||||
 Db 121 SVFANSLVYGTYSYDYLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFTDTSNHNDD 180
 |||||

QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
 |||||

Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217
 |||||

RESULT 3

STHUV

N:Alternate names: growth hormone 2; growth hormone variant; hGH-V; placental somatotropin
 N:Contains: somatotropin 2, long splice form; somatotropin 2, short splice form
 C:Species: Homo sapiens (man)
 C:Date: 17-Dec-1982 #sequence revision 10-Feb-1995 #text_change 21-Jul-2000
 C:Accession: D32435; B28072; A01511; I52104; A60711
 R:Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
 Genomics 4, 479-497, 1989

A:Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
 A:Reference number: A32435; MUID:89307277; PMID:2744760
 A:Accession: D32435
 A:Molecule type: DNA
 A:Residues: 1-217 <CHE>
 A:Cross-references: GB:J03071; NID:g183148; PIDN:AAA52552.1; PID:g183152
 R:Cooke, N.E.; Ray, J.; Emery, J.G.; Liebhaber, S.A.
 J. Biol. Chem. 263, 9001-9006, 1988

A:Title: Two distinct species of human growth hormone-variant mRNA in the human placenta
 A:Reference number: A92725; MUID:88243769; PMID:3379057
 A:Accession: B28072
 A:Molecule type: mRNA
 A:Residues: 1-217 <COO>
 R:Seeburg, P.H.
 DNA 1, 239-249, 1982

A:Title: The human growth hormone gene family: nucleotide sequences show recent divergence
 A:Reference number: A01511; MUID:83182010; PMID:7169009
 A:Accession: A01511
 A:Molecule type: DNA
 A:Residues: 1-34, 'P', 36-217 <SEE>
 R:Igout, A.; Scippo, M.L.; Franckenne, F.; Hennen, G.
 Arch. Int. Physiol. Biochim. 96, 63-67, 1988

A:Title: Cloning and nucleotide sequence of placental hGH-V cDNA.
 A:Reference number: I52104; MUID:89024984; PMID:2460050
 A:Accession: I52104
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: mRNA
 A:Residues: 1-217 <IGO>
 A:Cross-references: GB:M38451; NID:g183179; PIDN:AAA35891.1; PID:g183180
 R:Franckenne, F.; Scippo, M.L.; Van Beeumen, J.; Igout, A.; Hennen, G.
 J. Clin. Endocrinol. Metab. 71, 15-18, 1990

A:Title: Identification of placental human growth hormone as the growth hormone-V gene
 A:Reference number: A60711; MUID:90317018; PMID:2196278
 A:Accession: A60711
 A:Molecule type: protein
 A:Residues: 27-44; 46-57 <PRA>
 A:Experimental source: tissue placenta
 A:Note: partial glycosylation was demonstrated by lectin binding
 C:Comment: This gene is expressed by the placenta.
 C:Genetics:
 A:Gene: GDB:GH2
 A:Cross-references: GDB:1119983; OMIM:139240
 A:Map position: 17q22-17q24
 A:Introns: 4/1; 57/3; 97/3; 152/3
 C:Superfamily: prolactin
 C:Keywords: alternative splicing; glycoprotein; hormone; placenta
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-217/Product: somatotropin 2, long splice form #status predicted <SOL>

F:27-57,73-217/Product: somatotropin 2, short splice form #status predicted <SOS>
 F:79-191,208-215/Disulfide bonds: #status predicted
 F:166/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 89.7%; Score 939.5; DB 1; Length 217;
 Best Local Similarity 86.2%; Pred. No. 7.5e-79;
 Matches 187; Conservative 4; Mismatches 11; Indels 15; Gaps 1;

QY 1 MATGSRSTSLLLAFGLLCLPWLQEGSAFPTPLSRFLDNAMLRHLHQLAFDTYQEFEEA 57
 |||||
 Db 1 MAAGSRTSLLLAFGLLCLPWLQEGSAFPTPLSRFLDNAMLRHLHQLAFDTYQEFEEA 60
 |||||

QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
 |||||
 Db 61 YIPKQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 120
 |||||

QY 106 SVFANSLVYGASDSNVYDLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFTDTSNHNDD 165
 |||||
 Db 121 SVFANSLVYGASDSNVYRHLKLEEGIQTLMWRLDGSPRTGQIFNQSYSKFTDTSNHNDD 180
 |||||

QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
 |||||

Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217
 |||||

RESULT 4

E32435

N:Chorionotropin B precursor - human
 N:Alternate names: chorionic somatomotropin 2
 C:Species: Homo sapiens (man)
 C:Date: 29-Dec-1989 #sequence_revision 29-Dec-1989 #text_change 16-Jul-1999
 C:Accession: E32435
 R:Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
 Genomics 4, 479-497, 1989

A:Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
 A:Reference number: A32435; MUID:89307277; PMID:2744760
 A:Accession: E32435
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-217 <CHE>
 A:Cross-references: GB:J03071; NID:g183148; PIDN:AAA52553.1; PID:g183153
 C:Genetics:
 A:Gene: GDB:CSH2
 A:Cross-references: GDB:1119813; OMIM:118820
 A:Map position: 17q22-17q24
 C:Superfamily: prolactin

Query Match 83.4%; Score 873.5; DB 2; Length 217;
 Best Local Similarity 79.3%; Pred. No. 8.7e-73;
 Matches 172; Conservative 11; Mismatches 19; Indels 15; Gaps 1;

QY 1 MATGSRSTSLLLAFGLLCLPWLQEGSAFPTPLSRFLDNAMLRHLHQLAFDTYQEFEEA 57
 |||||
 Db 1 MAAGSRTSLLLAFALLCLPWLQEGAVQTVPLSRFLFDHMLQAHRAHQLAIDTYQEFEEA 60
 |||||

QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
 |||||
 Db 61 YIPKQKYSFLHDSQTSFCFSDSIPTPSNMETQOKSNLELLRISLLLIQSWLEPVQFLR 120
 |||||

QY 106 SVFANSLVYGASDSNVYDLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFTDTSNHNDD 165
 |||||
 Db 121 SMFANLVYDTSDDYHLLKLEEGIQTLMGRLDGSPRTGQILKQTSKFTDTSNHNDD 180
 |||||

QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
 |||||

Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217
 |||||

RESULT 5

LCHUC

N:Chorionotropin A precursor [validated] - human
 N:Alternate names: chorionic somatomotropin 1; placental lactogen
 C:Species: Homo sapiens (man)

C;Date: 23-Oct-1981 #sequence revision 23-Oct-1981 #text change 08-Dec-2000
C;Accession: C32435; A94422; I52342; A93833; A93192; A90054; A94427; A61283; I55229; I59
R;Chen, E.F.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: C32435
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: GB:J03071; NID:gt183148; PIDN:AAA52551.1; PID:gt183151
R;Goodman, H.M.; DeNoto, F.; Fiddes, J.C.; Halliwell, R.A.; Page, G.S.; Smith, S.; Tisch
in Mobilization and Reassembly of Genetic Information, Scott, W.A., Werner, R., Joseph,
A;Reference number: A94422
A;Accession: A94422
A;Molecule type: mRNA
A;Residues: 1-217 <GOO>
R;Tanaka, M.; Masuda, N.; Watabiki, M.; Yamakawa, M.; Shimizu, K.; Nagai, J.; Nakashima,
Biochem. Int. 16, 287-292, 1988
A;Title: cDNA cloning of human chorionic somatomammotropin-1 mRNA whose transcription wa
A;Reference number: I52342; MUID:88209096; PMID:2835050
A;Accession: I52342
A;Status: translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 1-3 <TAN>
A;Cross-references: GB:M35419; NID:g506822
R;Sherwood, L.M.; Birstein, Y.; Schechter, I.
Proc. Natl. Acad. Sci. U.S.A. 76, 3819-3823, 1979
A;Title: Primary structure of the NH-2-terminal extra piece of the precursor to human pl
A;Reference number: A93833; MUID:80034970; PMID:291043
A;Accession: A93833
A;Molecule type: protein
A;Residues: 1-3-26 <SHE>
A;Experimental source: Placenta
R;Shine, J.; Seeburg, P.H.; Martial, J.A.; Baxter, J.D.; Goodman, H.M.
Nature 270, 494-499, 1977
A;Title: Construction and analysis of recombinant DNA for human chorionic somatomatro
A;Reference number: A93192; MUID:78071761; PMID:593368
A;Accession: A93192
A;Molecule type: DNA
A;Residues: 50-217 <SHI>
A;Experimental source: placenta
R;Li, C.H.; Dixon, J.S.; Chung, D.
Arch. Biochem. Biophys. 155, 95-110, 1973
A;Title: Amino acid sequence of human chorionic somatomammotropin.
A;Reference number: A90054; MUID:73201971; PMID:4712450
A;Accession: A90054
A;Molecule type: protein
A;Residues: 27-217 <LIC>
A;Experimental source: placenta
R;Niall, H.D.
in Prolactin and Carcinogenesis, Proc. Fourth Tenovus Workshop Prolactin, Griffiths, K.,
A;Title: The chemistry of the human lactogenic hormones.
A;Reference number: A94427
A;Accession: A94427
A;Molecule type: protein
A;Residues: 27-217 <NIA>
A;Experimental source: placenta
R;Nic A Baird, N.; Tipton, K.F.
Biochem. Soc. Trans. 19, 20S, 1991
A;Title: Catechol-O-methyltransferase from human placenta: purification and some proper
A;Reference number: A61283; MUID:91244006; PMID:2037148
A;Accession: A61283
A;Molecule type: protein
A;Residues: 27-46 <NIC>
R;Sherwood, L.M.; Handwerger, S.; McLaurin, W.D.; Lanner, M.
Nature New Biol. 233, 59-61, 1971
A;Title: Amino-acid sequence of human placental lactogen.
A;Reference number: A93401; MUID:72016313; PMID:5286363
A;Contents: annotation
R;Sherwood, L.M.; Handwerger, S.; McLaurin, W.D.; Lanner, M.
Nature New Biol. 235, 64, 1972
A;Reference number: A93405

A;Contents: annotation
R;Schneider, A.B.; Kowalski, K.; Russell, J.; Sherwood, L.M.
J. Biol. Chem. 254, 3782-3787, 1979
A;Title: Identification of the interchain disulfide bonds of dimeric human placental la
A;Reference number: A92251; MUID:79173081; PMID:438159
A;Contents: annotation; dimeric disulfide bonds
R;Selby, M.J.; Barta, A.; Baxter, J.D.; Bell, G.I.; Eberhardt, N.L.
J. Biol. Chem. 259, 13131-13138, 1984
A;Title: Analysis of a major human chorionic somatomammotropin gene. Evidence for two f
A;Reference number: I55229; MUID:85030426; PMID:6208192
A;Accession: I55229
A;Status: translated from GB/EMBL/DBJ
A;Molecule type: DNA
A;Residues: 1-217 <RES>
A;Cross-references: GB:K02401; NID:gt181120; PIDN:AAA52115.1; PID:gt181121
R;Seeburg, P.H.; Shine, J.; Martial, J.A.; Ullrich, A.; Goodman, H.
Trans. Assoc. Am. Physicians 90, 109-116, 1977
A;Title: Nucleotide sequence of a human gene coding for a polypeptide hormone.
A;Reference number: I59658; MUID:78160787; PMID:611657
A;Accession: I59658
A;Status: translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 160-217 <RE2>
A;Cross-references: GB:M25118; NID:gt181124; PIDN:AAA35721.1; PID:gt181125
C;Genetics:
A;Gene: GDB:CSH1
A;Cross-references: GDB:119084; OMIM:150200
A;Map position: 17q22-17q24
A;Introns: 4/1; 57/3; 97/3; 152/3
A;Superfamily: prolactin
C;Keywords: hormone; placenta
F;1-26/Domain: signal sequence #status experimental <SIG>
F;27-217/Product: chorionammotropin A #status experimental <MAT>
F;79-191/Disulfide bonds: #status experimental
F;208-215/bisulfide bonds: (in monomeric form) #status experimental
F;208/Disulfide bonds: interchain (to 215 in dimeric form) #status experimental
F;215/Disulfide bonds: interchain (to 208 in dimeric form) #status experimental
Query Match 83.3%; Score 872.5; DB 1; Length 217;
Best Local Similarity 79.3%; Pred. No. 1.1e-72;
Matches 172; Conservative 11; Mismatches 19; Indels 15; Gaps 1;
Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTPLSLFNFNASLRAHRLHOLAFTTYQEP--- 57
Db 1 MAPGSRSTLLAFALLCLPWLQEGAVQTVPLSLFDFHMLQAHRAHQLAIDTYQEPEET 60
Qy 58 -----NPTSLSLCSSESIPTPSNREETQKSNLELRISLLLIQSLEPVPQFLR 105
Db 61 YIPKQKYSFLHDSQTSFCFSDSIPTPSNMEETQKSNLELRISLLLIESWLEPVPFLR 120
Qy 106 SVFANSLVYGASDSNVVDLLKDLBEGIQTLWGRLEDGSPRTGQIFKQTYKFDNSHNDD 165
Db 121 SMFANNLYVDTSDDYHLLKDLBEGIQTLWGRLEDGSRRTGQILKQTYSKFDINSNHD 180
Qy 166 ALLKNYGLLYCFRKMCKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMCKVETFLRMVQCRSVEGSCGF 217
RESULT 6
167409
chorionic somatomammotropin-3 - rhesus macaque
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 16-Jul-1999
C;Accession: I67409
R;Gollos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementa
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67409
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>

A;Cross-references: GB:IL16554; NID:g293112; PIDN:AAA18841.1; PID:g293113
C;Superfamily: prolactin

Query Match 82.8%; Score 866.5; DB 2; Length 217;
Best Local Similarity 77.4%; Pred. No. 3.8e-72;
Matches 168; Conservative 14; Mismatches 20; Indels 15; Gaps 1;

QY 1 MATGRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDNMMQAHRLHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSSSIPTPSNREETQOKSNLELLRISLLIQSWLEPVOFLR 105
DB 61 YIPKEKHSIMGNPQASFCFESSIPTPSNREETQOKSNLELLRISLLIQSWLEPVOFLR 120
QY 106 SVFANSLVYGASDSNVYDILLKLEEGIQTLMGRLDGSPRTGQIFKQYKSKFTNSHND 165
DB 121 SVFANSLVYGTSDAYDILLKLEEGIQTLMRQLDGSPTGQIFKQYKSKFTNSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 SLLKNYGLLYCFRKMDKVETFLRMVQCRVTEGSCGF 217

RESULT 7
I53267
chorionic somatomotropin-1 - rhesus macaque
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 16-Jul-1999
C;Accession: I53267
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I53267
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: GB:IL16552; NID:g293108; PIDN:AAA18839.1; PID:g293109
C;Superfamily: prolactin

Query Match 81.2%; Score 850.5; DB 2; Length 217;
Best Local Similarity 75.6%; Pred. No. 1.1e-70;
Matches 164; Conservative 18; Mismatches 20; Indels 15; Gaps 1;
QY 1 MATGRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDHAMIQAHLHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSSSIPTPSNREETQOKSNLELLRISLLIQSWLEPVOFLR 105
DB 61 YIPKEKHSIMGNPQASFCFADSIPTPSNLEETQOKSNLELLRISLLIQSWLEPVOFLS 120
QY 106 SVFANSLVYGASDSNVYDILLKLEEGIQTLMGRLDGSPRTGQIFKQYKSKFTNSHND 165
DB 121 SVFANSLVYGTSDVHDLKLEEGIQTLMRLEDGIPRTGHIKQYKSKFDAHSQND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 SLLKNYGLLYCFRKMDKVETFLRMVQCRVTEGSCGF 217

RESULT 8
I67411
somatotropin - rhesus macaque
N;Alternate names: growth hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 16-Jul-1999
C;Accession: I67411
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617

A;Accession: I67411
A;Status: preliminary; translated from GB/EMBL/DBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: GB:IL16555; NID:g293116; PIDN:AAA20180.1; PID:g293117
C;Superfamily: prolactin

Query Match 80.6%; Score 843.5; DB 2; Length 217;
Best Local Similarity 76.5%; Pred. No. 4.9e-70;
Matches 166; Conservative 14; Mismatches 22; Indels 15; Gaps 1;

QY 1 MATGRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDNAHRAHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSSSIPTPSNREETQOKSNLELLRISLLIQSWLEPVOFLR 105
DB 61 YIPKEKYSFLRNPQTSLCFSSSIPTPSNREETQOKSNLELLRISLLIQSWLEPVOFLR 120
QY 106 SVFANSLVYGASDSNVYDILLKLEEGIQTLMGRLDGSPRTGQIFKQYKSKFTNSHND 165
DB 121 SVFANSLVHTNGNFIDYLYLKKLEEGIQTLMGRLDGSPRTGQIFKQYKSKFTNSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 TLLKNYGLLYCFRKMDKVETFLRIVCRVTEGSCGF 217

RESULT 9
A26449
choriomamotropin precursor (allele hcs-3) - human
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 28-Jul-1995
C;Accession: A26449
R;Hirt, H.; Kimelman, J.; Birnbaum, M.J.; Chen, E.Y.; Seeburg, P.H.; Eberhardt, N.L.; Bai
DNA 6, 59-70, 1987
A;Title: The human growth hormone gene locus: structure, evolution, and allelic variation
A;Reference number: A26449; MUID:87161235; PMID:3030680
A;Accession: A26449
A;Molecule type: DNA
A;Residues: 1-215 <HIR>
A;Superfamily: prolactin
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-215/Product: choriomamotropin, hcs-3 allele #status predicted <MAT>

Query Match 80.5%; Score 842.5; DB 2; Length 215;
Best Local Similarity 77.9%; Pred. No. 6e-70; 19; Indels 17; Gaps 3;
Matches 169; Conservative 12; Mismatches 19;
QY 1 MATGRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRTSLLAFGLLCLPWLQEGSAFPTIPISRLFDHAMIQAHLHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSSSIPTPSNREETQOKSNLELLRISLLIQSWLEPVOFLR 105
DB 61 YIPKDKYSFLHDSQTSFCFSDSIPTPSNMEETQOKSNLELLRISLLIQSWLEP-REFR 118
QY 106 SVFANSLVYGASDSNVYDILLKLEEGIQTLMGRLDGSPRTGQIFKQYKSKFTNSHND 165
DB 119 SMFANSLVYDTSDDYHLLKLEEGIQTLMGRLDGSPRTGQIFKQYKSKFTNSHND 178
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 179 ALLKNYGLLYCFRKMDKVETFLRMVQCRSVEGSCGF 215

RESULT 10
I67408
chorionic somatomamotropin-2 - rhesus macaque (fragment)
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 16-Jul-1999
C;Accession: I67408
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.

Endocrinology 133, 1744-1752, 1993
 A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementary DNA sequences from the human placenta
 A;Reference number: 153267; MUID:94008724; PMID:8404617
 A;Accession: I67408
 A;Status: preliminary; translated from GB/EMBL/DBJ
 A;Molecule type: mRNA
 A;Residues: 1-212 <RES>
 A;Cross-references: GB:U16553; NID:G293110; PIDN:AAA18840.1; PID:G293111
 C;Superfamily: prolactin

Query Match 79.4%; Score 831.5; DB 2; Length 212;
 Best Local Similarity 75.5%; Pred. No. 6.1e-69;
 Matches 160; Conservative 18; Mismatches 19; Indels 15; Gaps 1;

QY 6 RTSLIAFGLLCPLPWQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF----- 57
 DB 1 RTSLIAFGLLCPLPWQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF 60
 QY 58 -----NPQTSCLFSESIPTPSNREETQOKSNLELRISLLIQSWLEPQVFLRSVFAN 110
 DB 61 KKHSLMENPQASTCFADSIPTPSNLEETQOKSNLELRISLLIQSWLEPQVFLRSVFAN 120
 QY 111 SLVYGASDSNVYDLKDLKEGIQTLMGRLDGSPRTGQIFKQYTSKFDTSNHNDDALLKN 170
 DB 121 NLHHTSDSDVHLLKDLKEGIETLMWRLEDGIPRTGHIFKQYTSKFDTSNHNDDALLKN 180
 QY 171 YGLLYCFKMDKVFETFLRVQCRSVEGSCGF 202
 DB 181 YGLLYCFKMDKVFETFLRVQCRSVEGSCGF 212

RESULT 11
 B32435
 chorionamototropin-like protein precursor - human
 C;Species: Homo sapiens (man)
 C;Date: 29-Dec-1989 #sequence_revision 29-Dec-1989 #text_change 16-Jul-1999
 C;Accession: B32435
 R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
 Genomics 4, 479-497, 1989
 A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
 A;Reference number: A32435; MUID:89307277; PMID:2744760
 A;Accession: B32435
 A;Status: preliminary
 A;Molecule type: DNA
 A;Residues: 1-199 <CHE>
 A;Cross-references: GB:J03071; NID:G183148; PIDN:AAA52550.1; PID:G183150
 C;Superfamily: prolactin

Query Match 74.5%; Score 779.5; DB 2; Length 199;
 Best Local Similarity 77.7%; Pred. No. 3.3e-64;
 Matches 157; Conservative 10; Mismatches 32; Indels 3; Gaps 1;

QY 1 MATGSRSLIAFGLLCPLPWQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEFNPQ 60
 DB 1 MAAGSRSLIAFGLLCPLPWQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF 60
 QY 61 TSLCFSESIPTPSNREETQOKSNLELRISLLIQSWLEPQVFLRSVFANSLVYGASDSN 120
 DB 61 WGM-- -DSIPTSNREETQOKSNLELRISLLIQSWLEPQVFLRSVFANSLVYDTSDD 117
 QY 121 VYDLKDLKEGIQTLMGRLDGSPRTGQIFKQYTSKFDTSNHNDDALLKNYGLLYCFKMD 180
 DB 118 DYHLKDLKEGIQTLMGRLDGSHLTGTLQYTSKFDTSNHNDDALLKNYGLLYCFKMD 177
 QY 181 MDKVFETFLRVQCRSVEGSCGF 202
 DB 178 MDKVFETFLRVQCRSVEGSCGF 199

RESULT 12
 I46145
 somatotropin precursor - dog
 N;Alternate names: growth hormone

C;Species: Canis lupus familiaris (dog)
 C;Date: 19-Dec-1997 #sequence_revision 19-Dec-1997 #text_change 16-Jul-1999
 C;Accession: I46145; S35790
 R;Ascacio-Martinez, J.A.; Barrera-Saldana, H.A.
 Gene 143, 277-280, 1994
 A;Title: A dog growth hormone cDNA codes for a mature protein identical to pig growth hormone
 A;Reference number: I46145; MUID:94266166; PMID:8206387
 A;Accession: I46145
 A;Status: preliminary; translated from GB/EMBL/DBJ
 A;Molecule type: mRNA
 A;Residues: 1-216 <ASC>
 A;Cross-references: EMBL:Z23067; NID:G312195; PIDN:CAA80601.1; PID:G312196
 A;Note: submitted to the EMBL Data Library, June 1993
 C;Superfamily: prolactin
 C;Keywords: hormone; pituitary
 F;1-26/Domain: signal sequence #status predicted <SIG>
 F;27-216/Product: somatotropin #status predicted <MAT>
 F;78-189,206-214/Disulfide bonds: #status predicted

Query Match 66.7%; Score 698; DB 2; Length 216;
 Best Local Similarity 64.5%; Pred. No. 1.1e-56;
 Matches 140; Conservative 20; Mismatches 41; Indels 16; Gaps 3;

QY 1 MATGSRSLIAFGLLCPLPWQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF--- 57
 DB 1 MAAGSRSLIAFGLLCPLPWQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF 60
 QY 58 -----NPQTSCLFSESIPTPSNREETQOKSNLELRISLLIQSWLEPQVFLRS 106
 DB 61 YIEGQRYSTQNAQAACFSETIPAPTKDQBAQORSVELLRSLLIQSWLEPQVFLRS 120
 QY 107 VFANSLVYGASDSNVYDLKDLKEGIQTLMGRLDGSPRTGQIFKQYTSKFDTSNHNDDA 166
 DB 121 VFTNSLVFGTSD-RVYEKLKDLKEGIQALMRELEDGSPRAGQILKQYDKFDTNLRSDA 179
 QY 167 LKKNYGLLYCFKMDKVFETFLRVQCRS-VEGSCGF 202
 DB 180 LKKNYGLLYCFKMDKVFETFLRVQCRS-VEGSCGF 216

RESULT 13
 STPG
 somatotropin precursor - pig
 N;Alternate names: growth hormone
 C;Species: Sus scrofa domestica (domestic pig)
 C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 18-Jun-1999
 C;Accession: J00015; S09015; I46584; I46585; PC1063; A01516; A94594
 R;Vize, P.D.; Wells, J.R.E.
 Gene 55, 339-344, 1987
 A;Title: Isolation and characterization of the porcine growth hormone gene.
 A;Reference number: J00015; MUID:88030700; PMID:3666458
 A;Accession: J00015
 A;Molecule type: DNA
 A;Residues: 1-216 <VIZ>
 A;Cross-references: GB:M17704; NID:G164475; PIDN:AAA31044.1; PID:G164476
 R;Kato, Y.; Shimokawa, N.; Kato, T.; Hirai, T.; Yoshikawa, K.; Kawai, H.; Hattori, M.A.
 Biochim. Biophys. Acta 1048, 290-293, 1990
 A;Title: Porcine growth hormone: molecular cloning of cDNA and expression in bacterial
 A;Reference number: S09015; MUID:90212663; PMID:2182128
 A;Accession: S09015
 A;Molecule type: mRNA
 A;Residues: 1-216 <KAT>
 A;Cross-references: GB:X53325; NID:G288361; PIDN:CAA37411.1; PID:G288362
 R;Seeburg, P.H.; Sias, S.; Adelman, J.P.; de Boer, H.A.; Hayflick, J.; Jhurani, P.; Goe
 DNA 2, 37-45, 1983
 A;Title: Efficient bacterial expression of bovine and porcine growth hormones.
 A;Reference number: I45898; MUID:83209123; PMID:6303731
 A;Accession: I45898
 A;Status: preliminary; translated from GB/EMBL/DBJ
 A;Molecule type: mRNA
 A;Residues: 7-8, 'V', '10-21, 'Q', '23-216 <SEE>
 A;Cross-references: GB:M27326; NID:G164477; PIDN:AAA31045.1; PID:G164478
 R;Su, T.

Gene 69, 81-89, 1988
A:Title: A multisite-directed mutagenesis using T7 DNA polymerase: application for recombinant DNA technology
A:Reference number: I46585; MUID:89137997; PMID:3224824
A:Accession: I46585
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-8,'V',10-21,'Q',23-42 <SUX>
A:Cross-references: GB:M22761; NID:gl64479; PIDN:AAA31046.1; PID:gl64480
R:Yang, Q.; Zhu, B.L.; Zhou, S.W.; Qi, S.Z.
Chinese J. Biotechnol. 8, 318-323, 1992
A:Title: Cloning and partly sequencing of the porcine growth hormone (pGH) gene from pig
A:Reference number: PC1063
A:Accession: PC1063
A:Molecule type: mRNA
A:Residues: 97-108,'E',110-158 <YAN>
A:Experimental source: pituitary
R:Mills, J.B.; Howard, S.C.; Scapa, S.; Wilhelm, A.E.
J. Biol. Chem. 245, 3407-3415, 1970
A:Title: Cyanogen bromide cleavage and partial amino acid sequence of porcine growth hormone
A:Reference number: A01516; MUID:70293161; PMID:4918150
A:Accession: A01516
A:Molecule type: protein
A:Residues: 27-30;149-194,'N',196-216 <MIL>
R:Mills, J.B.
Submitted to the Atlas, May 1971
A:Reference number: A94594
A:Accession: A94594
A:Molecule type: protein
A:Residues: 140-148 <MI2>
C:Genetics:
A:Gene: gh
A:Introns: 4/1; 57/3; 96/3; 150/3
C:Superfamily: prolactin
N:Alternate names: anterior pituitary; growth factor; hormone
F:1-26/Domain: signal sequence #status predicted <SIG>
F:27-216/Product: somatotropin #status predicted <MAT>
F:78-189/Disulfide bonds: #status predicted
F:206-214/Disulfide bonds: #status experimental

Query Match 66.3%; Score 694; DB 1; Length 216;
Best Local Similarity 64.1%; Pred. No. 2,7e-56;
Matches 139; Conservative 20; Mismatches 42; Indels 16; Gaps 3;
QY 1 MATGRTSLLAFGLLCPWLQEGSAFPTIPLSRLFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGPRNSVLLAFALLCPWPQEVCTFPAMPPLSSLFANAVLRAQHLHQLAADTYKEFERA 60
QY 58 -----NPQTSLCFSESIPTPSNEETQOKSNLELLRISLLLIQSMLPVPQFLRS 106
DB 61 YIEGQYSIQNAQAFCFSETIPAPTGTGKDEAQRSDVELLRFSLLIQSMLPVPQFLRS 120
QY 107 VFANSLVYGASDSNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDTNSHNDDA 166
DB 121 VFTNSLVFGTSD-RVYEKLEEGIQALMRELDGSPRGQQLKQTYDKFDTNLRSDDA 179
QY 167 LKKNYGLLYCFRKMDKVFETFLRIVQCRS-VEGSCGF 202
DB 180 LKKNYGLLSGCKKDLHKAETFLRVMKCRFFVESSCAAF 216
C:Genetics:
A:Gene: gh
A:Introns: 4/1; 57/3; 96/3; 150/3
C:Superfamily: prolactin
N:Alternate names: growth hormone
C:Species: Felis silvestris catus (domestic cat)
C:Date: 10-Apr-1996 #sequence_revision 24-May-1996 #text_change 16-Jul-1999
C:Accession: J04632
R:Warren, W.C.; Bentele, K.A.; Bogosian, G.
Gene 168, 247-249, 1996
A:Title: Cloning of the cDNAs coding for cat growth hormone and prolactin.
A:Reference number: J04631; MUID:96194906; PMID:8654953
A:Accession: J04632
A:Molecule type: mRNA

Query Match 65.1%; Score 682; DB 2; Length 216;
Best Local Similarity 63.1%; Pred. No. 3,4e-55;
Matches 137; Conservative 21; Mismatches 43; Indels 16; Gaps 3;
QY 1 MATGRTSLLAFGLLCPWLQEGSAFPTIPLSRLFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSWTAGLLAFALLCPWPQEVCTFPAMPPLSSLFANAVLRAQHLHQLAADTYKEFERA 60
QY 58 -----NPQTSLCFSESIPTPSNEETQOKSNLELLRISLLLIQSMLPVPQFLRS 106
DB 61 YIEGQYSIQNAQAFCFSETIPAPTGTGKDEAQRSDVELLRFSLLIQSMLPVPQFLRS 120
QY 107 VFANSLVYGASDSNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDTNSHNDDA 166
DB 121 AFTNLVFGTSD-RVYEKLEEGIQALMRELDGSPRGQQLKQTYDKFDTNLRSDDA 179
QY 167 LKKNYGLLYCFRKMDKVFETFLRIVQCRS-VEGSCGF 202
DB 180 LKKNYGLLSGCKKDLHKAETFLRVMKCRFFVESSCAAF 216
C:Genetics:
A:Gene: gh
A:Introns: 4/1; 57/3; 96/3; 150/3
C:Superfamily: prolactin

Search completed: July 12, 2004, 13:05:55

Job time : 22 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 12, 2004, 13:05:28 ; Search time 51 Seconds
(without alignments)
1235.441 Million cell updates/sec

Title: US-09-856-796B-2
Perfect score: 1047
Sequence: 1 MATGSRSTSLLLAFGLLCLPW.....KVETFLRIVQCRSVEGSCGF 202

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1279676 seqs, 311918243 residues

Total number of hits satisfying chosen parameters: 1279676

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications AA:*

- 1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep.*
- 4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep.*
- 5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep.*
- 6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep.*
- 7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep.*
- 8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
- 9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep.*
- 10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep.*
- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep.*
- 13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep.*
- 14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep.*
- 15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep.*
- 16: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep.*
- 17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
- 18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	DB	ID	Description
1	1029.5	98.3	217	9	US-09-853-688-2	Sequence 2, Appli
2	1029.5	98.3	217	9	US-09-853-688-4	Sequence 4, Appli
3	1029.5	98.3	217	10	US-09-969-748C-4	Sequence 4, Appli
4	1024.5	97.9	217	9	US-09-929-918-9	Sequence 9, Appli
5	1017.5	97.2	217	9	US-09-804-409A-16	Sequence 16, Appl
6	1017.5	97.2	217	12	US-10-411-037-48	Sequence 48, Appl
7	1017.5	97.2	217	12	US-10-411-026-48	Sequence 48, Appl
8	1017.5	97.2	217	16	US-10-410-962-48	Sequence 48, Appl
9	1017.5	97.2	217	16	US-10-411-049-48	Sequence 48, Appl
10	1017.5	97.2	217	16	US-10-410-930-48	Sequence 48, Appl
11	1017.5	97.2	217	16	US-10-410-937-48	Sequence 48, Appl
12	898.5	85.8	197	12	US-10-621-693-47	Sequence 47, Appl
13	898.5	85.8	198	12	US-10-621-693-45	Sequence 45, Appl
14	898.5	85.8	391	12	US-10-621-693-51	Sequence 51, Appl
15	898.5	85.8	396	12	US-10-621-693-49	Sequence 49, Appl

16	898.5	85.8	412	12	US-10-621-693-74	Sequence 74, Appl
17	898.5	85.8	589	12	US-10-621-693-53	Sequence 53, Appl
18	898.5	85.8	786	12	US-10-621-693-55	Sequence 55, Appl
19	898.5	85.8	810	12	US-10-621-693-76	Sequence 76, Appl
20	896.5	85.6	313	12	US-10-311-473-16	Sequence 16, Appl
21	896.5	85.6	338	12	US-10-311-473-5	Sequence 5, Appli
22	895.5	85.5	214	14	US-10-153-207-6	Sequence 6, Appli
23	895.5	85.5	384	12	US-10-621-693-37	Sequence 37, Appl
24	895.5	85.5	574	12	US-10-621-693-32	Sequence 32, Appl
25	895.5	85.5	576	12	US-10-621-693-39	Sequence 39, Appl
26	892.5	85.2	192	12	US-10-621-693-66	Sequence 66, Appl
27	892.5	85.2	192	12	US-10-621-693-68	Sequence 68, Appl
28	892.5	85.2	206	12	US-10-621-693-70	Sequence 70, Appl
29	891.5	85.1	191	12	US-10-646-798-2	Sequence 2, Appli
30	891.5	85.1	191	12	US-10-621-693-2	Sequence 80, Appli
31	891.5	85.1	191	12	US-10-621-693-80	Sequence 2, Appli
32	891.5	85.1	191	12	US-10-621-693-82	Sequence 82, Appl
33	891.5	85.1	191	12	US-10-621-693-84	Sequence 84, Appl
34	891.5	85.1	191	14	US-10-153-207-1	Sequence 1, Appli
35	891.5	85.1	191	14	US-10-400-377-1	Sequence 1, Appli
36	891.5	85.1	191	14	US-10-400-708-1	Sequence 1, Appli
37	891.5	85.1	191	14	US-10-298-148-1	Sequence 1, Appli
38	891.5	85.1	192	10	US-09-819-094-23	Sequence 23, Appl
39	891.5	85.1	192	12	US-10-621-693-8	Sequence 8, Appli
40	891.5	85.1	192	12	US-10-621-693-78	Sequence 78, Appl
41	891.5	85.1	192	12	US-10-621-693-86	Sequence 86, Appl
42	891.5	85.1	192	16	US-10-714-067-23	Sequence 23, Appl
43	891.5	85.1	193	12	US-10-621-693-42	Sequence 42, Appl
44	891.5	85.1	206	12	US-10-621-693-72	Sequence 72, Appl
45	891.5	85.1	245	9	US-09-280-030-66	Sequence 66, Appl

ALIGNMENTS

RESULT 1
US-09-853-688-2
; Sequence 2, Application US/09853688
; Patent No. US20020081605A1
; GENERAL INFORMATION:
; APPLICANT: COOPER, DAVID N.
; APPLICANT: PROCTER, ANNIE M.
; APPLICANT: GREGORY, JOHN
; APPLICANT: MILLAR, DAVID S.
; TITLE OF INVENTION: METHOD FOR DETECTING GROWTH HORMONE VARIATIONS IN HUMANS, THE VARIATIONS AND THEIR USES
; FILE REFERENCE: WCM78
; CURRENT APPLICATION NUMBER: US/09/853,688
; CURRENT FILING DATE: 2001-05-14
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 2
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-853-688-2

Query Match	98.3%	Score 1029.5;	DB 9;	Length 217;
Best Local Similarity	93.1%	Pred. No. 2.5e-99;		
Matches 202;	Conservative 0;	Mismatches 0;	Indels 15;	Gaps 1;
Qy	1	MATGSRSTSLLLAFGLLCLPWLQEGSAFTTIPLSRIFDNASRAHRLHQLAFDTYQEF---	57	
Db	1	MATGSRSTSLLLAFGLLCLPWLQEGSAFTTIPLSRIFDNASRAHRLHQLAFDTYQEFEEA	60	
Qy	58	-----NPOTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPQVFLR	105	
Db	61	YIPKEQKYSFLQNPQTSLSLCSFSEIPTPSNREETQOKSNLELLRISLLLIQSWLEPQVFLR	120	
Qy	106	SVFANSLVYGASDSNNVDLLKLEEGTLMGRLEDGSPRTGQIFKQYKSFEDTNSHND	165	
Db	121	SVFANSLVYGASDSNNVDLLKLEEGTLMGRLEDGSPRTGQIFKQYKSFEDTNSHND	180	

QY 166 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 202
Db 181 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 217

RESULT 2
US-09-853-688-4
; Sequence 4, Application US/09853688
; Patent No. US20020081605A1
; GENERAL INFORMATION:
; APPLICANT: COOPER, DAVID N.
; APPLICANT: PROCTER, ANNIE M.
; APPLICANT: GREGORY, JOHN
; APPLICANT: MILLAR, DAVID S.
; TITLE OF INVENTION: METHOD FOR DETECTING GROWTH HORMONE VARIATIONS IN
; HUMANS, THE VARIATIONS AND THEIR USES
; FILE REFERENCE: WCM78
; CURRENT APPLICATION NUMBER: US/09/853,688
; CURRENT FILING DATE: 2001-05-14
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-853-688-4

Query Match 98.3%; Score 1029.5; DB 9; Length 217;
Best Local Similarity 93.1%; Pred. No. 2.5e-99;
Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;

QY 1 MATGSRSLLLAFGLCLPWLQEGSAFPTIPLSRFLDNASIRAHRLHQLAFDITYQEF--- 57
Db 1 MATGSRSLLLAFGLCLPWLQEGSAFPTIPLSRFLDNASIRAHRLHQLAFDITYQEFEEA 60
QY 58 -----NPQTSLCFSESIPTPSNREETOQKSNLELLRISLLLIQSWLEPVPQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETOQKSNLELLRISLLLIQSWLEPVPQFLR 120
QY 106 SVFANSLVYGASDSNVYDLLKDLBEGIQTLMGRLDGSPTGQIFKQYISKFDNNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLBEGIQTLMGRLDGSPTGQIFKQYISKFDNNSHND 180
QY 166 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 202
Db 181 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 217

RESULT 4
US-09-929-918-9
; Sequence 9, Application US/09929918
; Patent No. US20020090678A1
; GENERAL INFORMATION:
; APPLICANT: Kordyum, Vitaliy A.
; APPLICANT: Chernykh, Svitlana I.
; APPLICANT: Slavchenko, Iryna Yu.
; APPLICANT: Vozianov, Oleksandr
; TITLE OF INVENTION: PHAGE-DEPENDENT SUPER PRODUCTION OF
; TITLE OF INVENTION: BIOLOGICALLY ACTIVE PROTEIN AND PEPTIDES
; FILE REFERENCE: PHAGE.006A
; CURRENT APPLICATION NUMBER: US/09/929,918
; CURRENT FILING DATE: 2001-08-15
; PRIOR APPLICATION NUMBER: 09/318,288
; PRIOR FILING DATE: 1999-05-25
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 9
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-929-918-9

Query Match 97.9%; Score 1024.5; DB 9; Length 217;
Best Local Similarity 92.6%; Pred. No. 8.4e-99;
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;

QY 1 MATGSRSLLLAFGLCLPWLQEGSAFPTIPLSRFLDNASIRAHRLHQLAFDITYQEF--- 57
Db 1 MATGSRSLLLAFGLCLPWLQEGSAFPTIPLSRFLDNAMLRHRLHQLAFDITYQEFEEA 60
QY 58 -----NPQTSLCFSESIPTPSNREETOQKSNLELLRISLLLIQSWLEPVPQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETOQKSNLELLRISLLLIQSWLEPVPQFLR 120
QY 106 SVFANSLVYGASDSNVYDLLKDLBEGIQTLMGRLDGSPTGQIFKQYISKFDNNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLBEGIQTLMGRLDGSPTGQIFKQYISKFDNNSHND 180
QY 166 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 202
Db 181 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 217

QY 166 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 202
Db 181 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 217

RESULT 2
US-09-853-688-4
; Sequence 4, Application US/09853688
; Patent No. US20020081605A1
; GENERAL INFORMATION:
; APPLICANT: COOPER, DAVID N.
; APPLICANT: PROCTER, ANNIE M.
; APPLICANT: GREGORY, JOHN
; APPLICANT: MILLAR, DAVID S.
; TITLE OF INVENTION: METHOD FOR DETECTING GROWTH HORMONE VARIATIONS IN
; HUMANS, THE VARIATIONS AND THEIR USES
; FILE REFERENCE: WCM78
; CURRENT APPLICATION NUMBER: US/09/853,688
; CURRENT FILING DATE: 2001-05-14
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-853-688-4

Query Match 98.3%; Score 1029.5; DB 9; Length 217;
Best Local Similarity 93.1%; Pred. No. 2.5e-99;
Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;

QY 1 MATGSRSLLLAFGLCLPWLQEGSAFPTIPLSRFLDNASIRAHRLHQLAFDITYQEF--- 57
Db 1 MATGSRSLLLAFGLCLPWLQEGSAFPTIPLSRFLDNASIRAHRLHQLAFDITYQEFEEA 60
QY 58 -----NPQTSLCFSESIPTPSNREETOQKSNLELLRISLLLIQSWLEPVPQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETOQKSNLELLRISLLLIQSWLEPVPQFLR 120
QY 106 SVFANSLVYGASDSNVYDLLKDLBEGIQTLMGRLDGSPTGQIFKQYISKFDNNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLBEGIQTLMGRLDGSPTGQIFKQYISKFDNNSHND 180
QY 166 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 202
Db 181 ALLKNGLYCYFRKMDKVFTELRIVQCRSVEGSCGF 217

RESULT 3
US-09-969-748C-4
; Sequence 4, Application US/09969748C
; Publication No. US20030161809A1
; GENERAL INFORMATION:
; APPLICANT: ARIZEKE PHARMACEUTICALS, INC.
; APPLICANT: HOUSTON, Lou, L.
; APPLICANT: SHERIDAN, Philip, J.
; APPLICANT: HAWLEY, Stephen
; APPLICANT: GLYNN, Jacqueline, M.
; APPLICANT: CHAPIN, Steven
; APPLICANT: BASU, Amaresh
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE TRANSPORT OF BIOLOGICALLY ACTIVE
; AGENTS ACROSS CELLULAR BARRIERS
; FILE REFERENCE: 057220-0303
; CURRENT APPLICATION NUMBER: US/09/969,748C
; CURRENT FILING DATE: 2002-12-10
; PRIOR APPLICATION NUMBER: US 60/267,601
; PRIOR FILING DATE: 2001-02-09
; PRIOR APPLICATION NUMBER: US 60/248,819
; PRIOR FILING DATE: 2000-11-14
; PRIOR APPLICATION NUMBER: US 60/248,478
; PRIOR FILING DATE: 2000-11-13
; PRIOR APPLICATION NUMBER: US 60/237,929
; PRIOR FILING DATE: 2000-10-02

RESULT 5
US-09-804-409A-16
; Sequence 16, Application US/09804409A
; Patent No. US20020155100A1
; GENERAL INFORMATION:
; APPLICANT: KIEFFER, TIMOTHY J.
; APPLICANT: CHEUNG, ANTHONY T.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR REGULATED PROTEIN
; TITLE OF INVENTION: EXPRESSION IN GUT
; FILE REFERENCE: 029996/027 8721
; CURRENT FILING DATE: 2001-03-12
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 16
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-804-409A-16

Query Match 97.2%; Score 1017.5; DB 9; Length 217;
Best Local Similarity 92.2%; Pred. No. 4.5e-98;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;

Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF--- 57
Db 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF 60

Qy 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 120

Qy 106 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 180

Qy 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 6
US-10-411-037-48
; Sequence 48, Application US/10411037
; Publication No. US20040043446A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: DeFrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; APPLICANT: Bowe, Caryn
; TITLE OF INVENTION: ALPHA GALACTOSIDASE A: REMODELING AND GLYCOCONJUGATION OF ALPHA
; FILE REFERENCE: 040853-01-5082
; CURRENT FILING DATE: 2003-04-09
; PRIOR FILING DATE: 2001-10-10
; PRIOR FILING DATE: 2001-10-10
; PRIOR FILING DATE: 2001-10-19
; PRIOR FILING DATE: 2002-06-07
; PRIOR FILING DATE: 2002-06-25
; PRIOR FILING DATE: 2002-07-17
; PRIOR FILING DATE: 2002-08-16
; PRIOR FILING DATE: 2002-08-28
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 48
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-411-037-48

Query Match 97.2%; Score 1017.5; DB 12; Length 217;
Best Local Similarity 92.2%; Pred. No. 4.5e-98;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;

Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF--- 57
Db 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF 60

Qy 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 120

Qy 106 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 180

Qy 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 7
US-10-411-026-48
; Sequence 48, Application US/10411026
; Publication No. US20040063911A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: DeFrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; TITLE OF INVENTION: PROTEIN REMODELING METHODS AND PROTEINS/PEPTIDES PRODUCED BY THE
; FILE REFERENCE: 040853-01-5053
; CURRENT FILING DATE: 2003-04-09
; PRIOR FILING DATE: 2001-10-10
; PRIOR FILING DATE: 2001-10-19
; PRIOR FILING DATE: 2002-06-07
; PRIOR FILING DATE: 2002-06-25
; PRIOR FILING DATE: 2002-07-17
; PRIOR FILING DATE: 2002-08-16
; PRIOR FILING DATE: 2002-08-28
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 48
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-411-026-48

Query Match 97.2%; Score 1017.5; DB 12; Length 217;
Best Local Similarity 92.2%; Pred. No. 4.5e-98;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;

Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF--- 57
Db 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF 60

Qy 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 120

Qy 106 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 180

Qy 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

; NUMBER OF SEQ ID NOS: 75
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 48
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-411-037-48

Query Match 97.2%; Score 1017.5; DB 12; Length 217;
Best Local Similarity 92.2%; Pred. No. 4.5e-98;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;

Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF--- 57
Db 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF 60

Qy 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 120

Qy 106 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 180

Qy 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 7
US-10-411-026-48
; Sequence 48, Application US/10411026
; Publication No. US20040063911A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: DeFrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; TITLE OF INVENTION: PROTEIN REMODELING METHODS AND PROTEINS/PEPTIDES PRODUCED BY THE
; FILE REFERENCE: 040853-01-5053
; CURRENT FILING DATE: 2003-04-09
; PRIOR FILING DATE: 2001-10-10
; PRIOR FILING DATE: 2001-10-19
; PRIOR FILING DATE: 2002-06-07
; PRIOR FILING DATE: 2002-06-25
; PRIOR FILING DATE: 2002-07-17
; PRIOR FILING DATE: 2002-08-16
; PRIOR FILING DATE: 2002-08-28
; NUMBER OF SEQ ID NOS: 75
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 48
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-411-026-48

Query Match 97.2%; Score 1017.5; DB 12; Length 217;
Best Local Similarity 92.2%; Pred. No. 4.5e-98;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;

Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF--- 57
Db 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLPDNASLRAHRLHQLAFDTYQEF 60

Qy 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISILLIQSWLEPVQFLR 120

Qy 106 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKFDTNSHND 180

Qy 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

Db	1	MATGSR	TLLA	FLGL	CLPW	QEGSA	PFTI	PLSR	PF	DNAM	RAIR	LHQL	APDT	QOE	EEA	60
Qy	58	-----	NPQ	SLC	SE	PT	PS	NR	ET	Q	KN	LE	LR	IS	LL	105
Db	61	YIPKE	KY	FL	QNP	Q	SLC	SE	PT	PS	NR	ET	Q	KN	LE	120
Qy	106	SVFANS	LV	GAS	DS	NV	YD	LL	KD	LE	EG	QT	LM	GR	LD	165
Db	121	SVFANS	LV	GAS	DS	NV	YD	LL	KD	LE	EG	QT	LM	GR	LD	180
Qy	166	ALLK	NY	GL	LY	CF	R	K	D	M	K	V	E	T	F	202
Db	181	ALLK	NY	GL	LY	CF	R	K	D	M	K	V	E	T	F	217

RESULT 8
US-10-410-962-48
; Sequence 48, Application US/10410962
; Publication No. US20040077836A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: DePrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; APPLICANT: Bowe, Caryn
; TITLE OF INVENTION: GRANULOCYTE COLONY STIMULATING FACTOR: REMODELING AND
; TITLE OF INVENTION: GLYCOCONJUGATION OF G-CSF
; FILE REFERENCE: 040853-01-5054
; CURRENT APPLICATION NUMBER: US/10/410,962
; CURRENT FILING DATE: 2003-04-09
; PRIOR APPLICATION NUMBER: US 60/328,523
; PRIOR FILING DATE: 2001-10-10
; PRIOR APPLICATION NUMBER: US 60/344,692
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/387,292
; PRIOR FILING DATE: 2002-06-07
; PRIOR APPLICATION NUMBER: US 60/391,777
; PRIOR FILING DATE: 2002-06-25
; PRIOR APPLICATION NUMBER: US 60/396,594
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: US 60/404,249
; PRIOR FILING DATE: 2002-08-16
; PRIOR APPLICATION NUMBER: US 60/407,527
; PRIOR FILING DATE: 2002-08-28
; NUMBER OF SEQ ID NOS: 75
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 48
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-10-410-962-48

RESULT 9
 US-10-411-049-48
 ; Sequence 48, Application US/10411049
 ; Publication No. US20040082026A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Neose Technologies, Inc.
 ; APPLICANT: Deprees, Shawn
 ; APPLICANT: Zopf, David
 ; APPLICANT: Bayer, Robert
 ; APPLICANT: Hakes, David
 ; APPLICANT: Chen, Xi
 ; APPLICANT: Bows, Caryn
 ; TITLE OF INVENTION: INTERFERON ALPHA: REMODELING AND GLYCOCONJUGATION OF INTERFERON
 ; TITLE OF INVENTION: ALPHA
 ; FILE REFERENCE: 040853-01-5055
 ; CURRENT APPLICATION NUMBER: US/10/411,049
 ; CURRENT FILING DATE: 2003-04-09
 ; PRIOR APPLICATION NUMBER: US 60/328,523
 ; PRIOR FILING DATE: 2001-10-10
 ; PRIOR APPLICATION NUMBER: US 60/344,692
 ; PRIOR FILING DATE: 2001-10-19
 ; PRIOR APPLICATION NUMBER: US 60/387,292
 ; PRIOR FILING DATE: 2002-06-07
 ; PRIOR APPLICATION NUMBER: US 60/391,777
 ; PRIOR FILING DATE: 2002-06-25
 ; PRIOR APPLICATION NUMBER: US 60/396,594
 ; PRIOR FILING DATE: 2002-07-17
 ; PRIOR APPLICATION NUMBER: US 60/404,249
 ; PRIOR FILING DATE: 2002-08-16
 ; PRIOR APPLICATION NUMBER: US 60/407,527
 ; PRIOR FILING DATE: 2002-08-28
 ; NUMBER OF SEQ ID NOS: 75
 ; SOFTWARE: PatentIn version 3.2
 ; SEQ ID NO 48
 ; LENGTH: 217
 ; TYPE: PRT
 ; ORGANISM: Homo sapiens
 US-10-411-049-48

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RESULT 10
US-10-410-930-48
; Sequence 48, Application US/10410930
; Publication No. US20040115168A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: Defrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi

```

```

; APPLICANT:  Bowe, Caryn
; TITLE OF INVENTION:  INTERFERON BETA: REMODELING AND GLYCOCONJUGATION OF INTERFERON
; TITLE OF INVENTION:  BETA
; FILE REFERENCE:  040853-01-5056
; CURRENT APPLICATION NUMBER:  US/10/410,930
; CURRENT FILING DATE:  2003-04-09
; PRIOR APPLICATION NUMBER:  US 60/328,523
; PRIOR FILING DATE:  2001-10-10
; PRIOR APPLICATION NUMBER:  US 60/344,692
; PRIOR FILING DATE:  2001-10-19
; PRIOR APPLICATION NUMBER:  US 60/387,292
; PRIOR FILING DATE:  2002-06-07
; PRIOR APPLICATION NUMBER:  US 60/391,777
; PRIOR FILING DATE:  2002-06-25
; PRIOR APPLICATION NUMBER:  US 60/396,594
; PRIOR FILING DATE:  2002-07-17
; PRIOR APPLICATION NUMBER:  US 60/404,249
; PRIOR FILING DATE:  2002-08-16
; PRIOR APPLICATION NUMBER:  US 60/407,527
; PRIOR FILING DATE:  2002-08-28
; NUMBER OF SEQ ID NOS:  75
; SOFTWARE:  PatentIn version 3.2
; SEQ ID NO 48
; LENGTH:  217
; TYPE:  prt
; ORGANISM:  Homo sapiens
US-10-410-930-48

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Query Match	97.2%;	Score 1017.5;	DB 16;	Length 217;			
Best local Similarity	92.2%;	Pred. No. 4.5e-98;					
Matches 200;	Conservative 0;	Mismatches 2;	Indels 15;	Gaps 1;			
Qy	1	MATGSR	TSLLAFGLLCLPWLQEGSA	PTPLSRPLFDN	ASIRAHRLHQLAFD	TVQEF---	57
Db	1	MATGSR	TSLLAFGLLCLPWLQEGSA	PTPLSRPPFDN	AMLRHRLHQLAFD	TVQEF	60
Qy	58	-----	NPQTS	LCFS	ESIPTPSN	REETOQKSNLE	LLRISLLLSIQSWLEPVQFLR 105
Db	61	YIPKEQ	KYSLQNPQTS	LCFS	ESIPTPSN	REETOQKSNLE	LLRISLLLSIQSWLEPVQFLR 120
Qy	106	SVFANS	LIVYGAS	SNVYDLKDL	EEGIQTLMGR	LEDGSPRTGQIFK	QTSKFDTSNHDD 165
Db	121	SVFANS	LIVYGAS	SNVYDLKDL	EEGIQTLMGR	LEDGSPRTGQIFK	QTSKFDTSNHDD 180
Qy	166	ALLKNY	GLLCYCFR	KDMKVETFL	RIVQCR	SVEGSCGF	202
Db	181	ALLKNY	GLLCYCFR	KDMKVETFL	RIVQCR	SVEGSCGF	217

RESULT 11
US-10-410-997-48
; Sequence 48, Application US/10410997
; Publication No. US20040126838A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies, Inc.
; APPLICANT: Defreese, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
; APPLICANT: Chen, Xi
; APPLICANT: Bowe, Catyn
; TITLE OF INVENTION: FOLLICLE STIMULATING HORMONE: REMODELING AND GLYCOCONJUGATION OF
; TITLE OF INVENTION: FSH
; FILE REFERENCE: 040853-01-5059
; CURRENT APPLICATION NUMBER: US/10/410,997
; CURRENT FILING DATE: 2003-04-09
; PRIOR APPLICATION NUMBER: US 60/328,523
; PRIOR FILING DATE: 2001-10-10
; PRIOR APPLICATION NUMBER: US 60/344,692
; PRIOR FILING DATE: 2001-10-19
; PRIOR APPLICATION NUMBER: US 60/387,292
; PRIOR FILING DATE: 2002-06-07
; PRIOR APPLICATION NUMBER: US 60/391,777

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; PRIOR FILING DATE: 2002-06-25
; PRIOR APPLICATION NUMBER: US 60/396,594
; PRIOR FILING DATE: 2002-07-17
; PRIOR APPLICATION NUMBER: US 60/404,249
; PRIOR FILING DATE: 2002-08-16
; PRIOR APPLICATION NUMBER: US 60/407,527
; PRIOR FILING DATE: 2002-08-28
; NUMBER OF SEQ ID NOS: 75
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 48
; LENGTH: 217
; TYPE: prt
; ORGANISM: Homo sapiens
US-10-410-997-48

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	Query Match	97.2%; Score 1017.5; DB 16; Length 217;
	Best local Similarity	92.2%; Pred. No. 4.5e-98;
	Matches 200; Conservative	0; Mismatches 2; Indels 15; Gaps 1
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DB	1 MATGSRSTSLLAFCGLLCPLMOEGSAPTTPLSRFPFNAMLRARLHRHQAFDPTYGEFFEA	60
QY	58 -----NPQTSCFSSEIPTPSNRREETOOKSNNLELRISLLIIQSWLPEVQFLR	105
DB	61 YIPKEQKYSFLQNPTQLCFSES IPTPSNRREETOOKSNNLELRISLLIIQSWLPEVQFLR	120
QY	106 SVFANSILVYGASDSNVVDLKLDIEEQTLMGRLEDGS PRGTGFQKFOTYSKFDNTNSHDD	165
DB	121 SVFANSILVYGASDSNVVDLKLDIEEQTLMGRLEDGS PRGTGFQKFOTYSKFDNTNSHDD	180
QY	166 ALLKNYGLLYCFRKMDKVETFLIRIVQCRSVEGSGCF	202
DB	181 ALLKNYGLLYCFRKMDKVETFLIRIVQCRSVEGSGCF	217

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RESULT 12
US-10-621-693-47
; Sequence 47, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
; APPLICANT: Gentide Biopharmaceuticals, Inc.
; APPLICANT: Bussell, Stuart
; TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENCES
; TITLE OF INVENTION: DIRECT FUSIONS OR WITH LINKERS
; FILE REFERENCE: GNT-00101.P.1-US
; CURRENT APPLICATION NUMBER: US/10/621,693
; CURRENT FILING DATE: 2003-07-16
; PRIOR APPLICATION NUMBER: US 60/396,466
; PRIOR FILING DATE: 2002-07-16
; NUMBER OF SEQ ID NOS: 86
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 47
; LENGTH: 197
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: synthetic sequence
US-10-621-693-47

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		Query Match	85.8%;	Score 898.5;	DB 12;	Length 197;
		Best Local Similarity	90.7%;	Pred. No. 1.2e-85;		
		Matches	176;	Conservative	1;	Mismatches 2; Indels 15; Gaps 1;
QY	24	GSAFPTPIPSRLFDNASLRARHLHQIAFTDYQBF-----NPQTSLCFSES	68			
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Db	4	GGSFPTPIPSRLFDNAMLRAHRLHQIAFTDYQBFEEAYIPKEQKYSFLQNPTQLCFSES	63			
QY	69	IPTPSNRRETOOKNSLELLRISLILLTOSMLEPVOFLRSVFANSIVYGASDSNVYDLAKDL	128			
Db	64	IPTPSNRRETOOKNSLELLRISLILLTOSMLEPVOFLRSVFANSIVYGASDSNVYDLAKDL	123			
QY	129	EGGIOTLMGRLEDGSPRTGOIFKOTYSKFEDTNSHNDALLKNYGLLYCFKMDKVETEL	188			

Db 184 RIVQCRSVEGCGF 197
|||||

Search completed: July 12, 2004, 13:11:23
Job time : 51 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 12, 2004, 13:02:48 ; Search time 22 Seconds
(without alignments)
474.020 Million cell updates/sec

Title: US-09-856-796B-2

Perfect score: 1047

Sequence: 1 MATGSRRTSLLAFLGLCLPW.....KVETFLRIVQCRSVGSGCF 202

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:*

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6: /cgn2_6/ptodata/2/iaa/backfiles1.pcp.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1029.5	98.3	217	1	US-08-469-486-51
2	1029.5	98.3	217	2	US-08-469-658-51
3	1024.5	97.9	217	3	US-08-589-028-10
4	1024.5	97.9	217	3	US-08-784-582-10
5	1024.5	97.9	217	3	US-08-785-271-10
6	1024.5	97.9	217	3	US-08-759-628-11
7	1024.5	97.9	217	4	US-09-284-878-1
8	1024.5	97.9	217	4	US-09-511-024A-1
9	1016.5	97.1	217	1	US-08-187-756C-4
10	1016.5	97.1	217	2	US-08-710-324A-4
11	1016.5	97.1	217	4	US-09-411-657-4
12	999	95.4	198	1	US-08-187-756C-5
13	999	95.4	198	2	US-08-710-324A-5
14	999	95.4	198	4	US-09-411-657-5
15	926.5	88.5	360	3	US-08-784-582-73
16	924.5	88.3	274	3	US-08-784-582-71
17	914	87.3	176	3	US-08-791-728-2
18	914	87.3	176	3	US-08-990-774-2
19	909	86.8	176	3	US-08-791-728-1
20	909	86.8	176	4	US-08-990-774-1
21	896.5	85.6	191	4	US-09-465-461-1
22	891.5	85.1	191	4	US-09-284-878-5
23	891.5	85.1	191	4	US-09-462-941-1
24	891.5	85.1	192	1	US-08-093-383-1
25	891.5	85.1	194	2	US-08-383-621-4
26	891.5	85.1	194	3	US-08-459-906-4
27	891.5	85.1	241	4	US-09-424-620B-25

28 891.5 85.1 245 4 US-09-280-030-66
29 884.5 84.5 401 4 US-09-420-819-36
30 881.5 84.2 191 4 US-09-554-451-1
31 880.5 84.1 177 1 US-08-187-756C-6
32 880.5 84.1 177 2 US-08-710-324A-6
33 880.5 84.1 177 4 US-09-411-657-6
34 878.5 83.9 400 4 US-09-420-819-37
35 876.5 83.7 191 3 US-08-800-215C-16
36 871.5 83.2 191 4 US-09-554-451-3
37 867.5 82.9 191 3 US-08-800-215C-18
38 867.5 82.9 191 3 US-08-800-215C-20
39 866.5 82.8 191 4 US-09-511-024A-4
40 860.5 82.2 191 4 US-09-511-024A-5
41 853.5 81.5 191 4 US-09-511-024A-6
42 851.5 81.3 191 4 US-09-511-024A-3
43 814.5 77.8 191 4 US-09-511-024A-9
44 778.5 74.4 191 4 US-09-511-024A-7
45 778.5 74.4 191 4 US-09-511-024A-8

ALIGNMENTS

RESULT 1
US-08-469-486-51
; Sequence 51, Application US/08469486
; Patent No. 5739281
; GENERAL INFORMATION:
; APPLICANT: Thøgersen, Hans Christian
; APPLICANT: Holstet, Thor Las
; APPLICANT: Ezerodt, Michael
; TITLE OF INVENTION: Improved method for the refolding of
; NUMBER OF SEQUENCES: 58
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Fish & Richardson
; STREET: 225 Franklin Street
; CITY: Boston
; STATE: Massachusetts
; COUNTRY: USA
; ZIP: 02110-2804
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/469,486
; FILING DATE:
; CLASSIFICATION: 530
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/192,060
; FILING DATE: February 4, 1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Paul T. Clark
; REGISTRATION NUMBER: 30,162
; REFERENCE/DOCKET NUMBER: 06363/002001
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617 542 5070
; TELEFAX: 617 542 8906
; TELEX: 200154
; INFORMATION FOR SEQ ID NO: 51:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 217 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-469-486-51

Query Match 98.3%; Score 1029.5; DB 1; Length 217;
Best Local Similarity 93.1%; Pred. No. 1.4e-108;

Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;	
QY	1 MATGSR TSLLA FGLLC LPM LQEGSA FTTPLSR LFDNAS LRAHRLHQLA FDTYQEF 57
Db	1 MATGSR TSLLA FGLLC LPM LQEGSA FTTPLSR LFDNAS LRAHRLHQLA FDTYQEF 60
QY	58 -----NPQTS LCFSES IPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
Db	61 YIPKEQKYSFLQN PQTSLCFSES IPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 120
QY	106 SVFANSLVYGASDSNVYDLLKDLEGIQTL MGRLEDGSPRTGQIFKQYSKFDTNSHND 165
Db	121 SVFANSLVYGASDSNVYDLLKDLEGIQTL MGRLEDGSPRTGQIFKQYSKFDTNSHND 180
QY	166 ALLKNYGLLYCFRKM DKVETFLRIVQCRSVEGSGCF 202
Db	181 ALLKNYGLLYCFRKM DKVETFLRIVQCRSVEGSGCF 217
RESULT 2	
US-08-469-658-51	
; Sequence 51, Application US/08469658	
; Patent No. 5917018	
; GENERAL INFORMATION:	
; APPLICANT: Th eger sen, Hans Christian	
; APPLICANT: Holtet, Thor Las	
; APPLICANT: Etzerodt, Michael	
; TITLE OF INVENTION: IMPROVED METHOD FOR THE REFOLDING OF	
; TITLE OF INVENTION: PROTEINS	
; NUMBER OF SEQUENCES: 58	
; CORRESPONDENCE ADDRESS:	
; ADDRESSEE: Fish & Richardson P.C.	
; STREET: 225 Franklin Street	
; CITY: Boston	
; STATE: Massachusetts	
; COUNTRY: USA	
; ZIP: 02110-2804	
; COMPUTER READABLE FORM:	
; MEDIUM TYPE: Floppy disk	
; COMPUTER: IBM PC compatible	
; OPERATING SYSTEM: PC-DOS/MS-DOS	
; SOFTWARE: Patent In Release #1.0, Version	
; SOFTWARE: #1.25	
; CURRENT APPLICATION DATA:	
; APPLICATION NUMBER: US/08/469,658	
; FILING DATE: June 5, 1995	
; CLASSIFICATION: 530	
; PRIOR APPLICATION DATA:	
; APPLICATION NUMBER: 08/192,060	
; FILING DATE: February 4, 1994	
; CLASSIFICATION: 530	
; ATTORNEY/AGENT INFORMATION:	
; NAME: Paul T. Clark	
; REGISTRATION NUMBER: 30,162	
; REFERENCE/DOCKET NUMBER: 06363/002002	
; TELECOMMUNICATION INFORMATION:	
; TELEPHONE: 617 542 5070	
; TELEFAX: 617 542 8906	
; TELEX: 200154	
; INFORMATION FOR SEQ ID NO: 51:	
; SEQUENCE CHARACTERISTICS:	
; LENGTH: 217 amino acids	
; TYPE: amino acid	
; STRANDEDNESS:	
; TOPOLOGY: linear	
; MOLECULE TYPE: protein	
US-08-469-658-51	
Query Match 98.3%; Score 1029.5; DB 2; Length 217;	
Best Local Similarity 93.1%; Pred. No. 1.4e-108;	
Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;	
QY	1 MATGSR TSLLA FGLLC LPM LQEGSA FTTPLSR LFDNAS LRAHRLHQLA FDTYQEF 57

Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;	
Db	1 MATGSR TSLLA FGLLC LPM LQEGSA FTTPLSR LFDNAS LRAHRLHQLA FDTYQEF 60
QY	58 -----NPQTS LCFSES IPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
Db	61 YIPKEQKYSFLQN PQTSLCFSES IPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 120
QY	106 SVFANSLVYGASDSNVYDLLKDLEGIQTL MGRLEDGSPRTGQIFKQYSKFDTNSHND 165
Db	121 SVFANSLVYGASDSNVYDLLKDLEGIQTL MGRLEDGSPRTGQIFKQYSKFDTNSHND 180
QY	166 ALLKNYGLLYCFRKM DKVETFLRIVQCRSVEGSGCF 202
Db	181 ALLKNYGLLYCFRKM DKVETFLRIVQCRSVEGSGCF 217
RESULT 3	
US-08-589-028-10	
; Sequence 10, Application US/08589028	
; Patent No. 6087129	
; GENERAL INFORMATION:	
; APPLICANT: Newgard, Christopher B.	
; APPLICANT: Halban, Philippe	
; APPLICANT: No. 6087129mington, Karl D.	
; APPLICANT: Clark, Samuel A.	
; APPLICANT: Thigpen, Anice E.	
; APPLICANT: Quade, Christian	
; APPLICANT: Kruse, Fred	
; TITLE OF INVENTION: Recombinant Expression of Proteins From	
; TITLE OF INVENTION: Secretary Cell Lines	
; NUMBER OF SEQUENCES: 50	
; CORRESPONDENCE ADDRESS:	
; ADDRESSEE: Arnold, White & Durkee	
; STREET: P. O. Box 4433	
; CITY: Houston	
; STATE: TX	
; COUNTRY: USA	
; ZIP: 77210-4433	
; COMPUTER READABLE FORM:	
; MEDIUM TYPE: Floppy disk	
; COMPUTER: IBM PC compatible	
; OPERATING SYSTEM: PC-DOS/MS-DOS	
; SOFTWARE: Patent In Release #1.0, Version #1.30	
; CURRENT APPLICATION DATA:	
; APPLICATION NUMBER: US/08/589,028	
; FILING DATE: Concurrently Herewith	
; CLASSIFICATION: 435	
; ATTORNEY/AGENT INFORMATION:	
; NAME: Highlander, Steven L.	
; REGISTRATION NUMBER: 47,642	
; REFERENCE/DOCKET NUMBER: UTSD:426\HYL	
; TELECOMMUNICATION INFORMATION:	
; TELEPHONE: (512) 418-3000	
; TELEFAX: (512) 474-7577	
; INFORMATION FOR SEQ ID NO: 10:	
; SEQUENCE CHARACTERISTICS:	
; LENGTH: 217 amino acids	
; TYPE: amino acid	
; STRANDEDNESS:	
; TOPOLOGY: linear	
US-08-589-028-10	
Query Match 97.9%; Score 1024.5; DB 3; Length 217;	
Best Local Similarity 92.6%; Pred. No. 5.1e-108;	
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;	
QY	1 MATGSR TSLLA FGLLC LPM LQEGSA FTTPLSR LFDNAS LRAHRLHQLA FDTYQEF 57
Db	1 MATGSR TSLLA FGLLC LPM LQEGSA FTTPLSR LFDNAS LRAHRLHQLA FDTYQEF 60
QY	58 -----NPQTS LCFSES IPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
Db	61 YIPKEQKYSFLQN PQTSLCFSES IPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 120

QY 106 SVFANSIVGASDSNVYDLLKDLLEGIQTLMGRLDGSPTGQIFKQTSKFDTSNHHDD 165
Db 121 SVFANSIVGASDSNVYDLLKDLLEGIQTLMGRLDGSPTGQIFKQTSKFDTSNHHDD 180
QY 166 ALLKNYGLLYCFRKMDKVKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVKVETFLRIVQCRSVEGSCGF 217

RESULT 4

US-08-784-582-10
; Sequence 10, Application US/08784582
; Patent No. 6110707
; GENERAL INFORMATION:
; APPLICANT: Newgard, Christopher B.
; APPLICANT: Halban, Philippe A.
; APPLICANT: No. 6110707/mington, Karl D.
; APPLICANT: Clark, Samuel A.
; APPLICANT: Thigpen, Anice E.
; APPLICANT: Quaade, Christian
; APPLICANT: Kruse, Fred
; APPLICANT: McGarry, Dennis
; TITLE OF INVENTION: RECOMBINANT EXPRESSION OF PROTEINS FROM
; TITLE OF INVENTION: SECRETORY CELL LINES
; NUMBER OF SEQUENCES: 79
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Arnold, White & Durkee
; STREET: P.O. Box 4433
; CITY: Houston
; STATE: Texas
; COUNTRY: USA
; ZIP: 77210

COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/784,582
; FILING DATE: Concurrently Herewith
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/028,427
; FILING DATE: 15-OCT-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/589,028
; FILING DATE: 19-JAN-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Highlander, Steven L.
; REGISTRATION NUMBER: 37,642
; REFERENCE/DOCKET NUMBER: UTSD:514
; TELEPHONE: 512/418-3000
; TELEFAX: 512/474-7577
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 217 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
US-08-784-582-10

Query Match 97.9%; Score 1024.5; DB 3; Length 217;
Best Local Similarity 92.6%; Pred. No. 5.1e-108;
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;
QY 1 MATGRTSLLAFGLCLPWLQEGSAFPTPLSRFPDNASLRAHLRHQLAFDTYQEF 57
Db 1 MATGRTSLLAFGLCLPWLQEGSAFPTPLSRFPDNAMLRHLRHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELRISILLIQSWLEPVOFLR 105

Db 61 YIPKEQKYFLQNPQTSLCFSESIPTPSNREETQOKSNLELRISILLIQSWLEPVOFLR 120
QY 106 SVFANSIVGASDSNVYDLLKDLLEGIQTLMGRLDGSPTGQIFKQTSKFDTSNHHDD 165
Db 121 SVFANSIVGASDSNVYDLLKDLLEGIQTLMGRLDGSPTGQIFKQTSKFDTSNHHDD 180
QY 166 ALLKNYGLLYCFRKMDKVKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVKVETFLRIVQCRSVEGSCGF 217

RESULT 5

US-08-785-271-10
; Sequence 10, Application US/08785271
; Patent No. 6194176
; GENERAL INFORMATION:
; APPLICANT: Newgard, Christopher B.
; APPLICANT: Halban, Philippe A.
; APPLICANT: No. 6194176/mington, Karl D.
; APPLICANT: Clark, Samuel A.
; APPLICANT: Thigpen, Anice E.
; APPLICANT: Quaade, Christian
; APPLICANT: Kruse, Fred
; TITLE OF INVENTION: RECOMBINANT EXPRESSION OF PROTEINS FROM
; TITLE OF INVENTION: SECRETORY CELL LINES
; NUMBER OF SEQUENCES: 56
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Arnold, White & Durkee
; STREET: P.O. Box 4433
; CITY: Houston
; STATE: Texas
; COUNTRY: USA
; ZIP: 77210

COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/785,271
; FILING DATE: Concurrently Herewith
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/589,028
; FILING DATE: 19-JAN-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: Highlander, Steven L.
; REGISTRATION NUMBER: 37,642
; REFERENCE/DOCKET NUMBER: UTSD:513
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 512/418-3000
; TELEFAX: 512/474-7577
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 217 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
US-08-785-271-10

Query Match 97.9%; Score 1024.5; DB 3; Length 217;
Best Local Similarity 92.6%; Pred. No. 5.1e-108;
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;
QY 1 MATGRTSLLAFGLCLPWLQEGSAFPTPLSRFPDNASLRAHLRHQLAFDTYQEF 57
Db 1 MATGRTSLLAFGLCLPWLQEGSAFPTPLSRFPDNAMLRHLRHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELRISILLIQSWLEPVOFLR 105
Db 61 YIPKEQKYFLQNPQTSLCFSESIPTPSNREETQOKSNLELRISILLIQSWLEPVOFLR 120
QY 106 SVFANSIVGASDSNVYDLLKDLLEGIQTLMGRLDGSPTGQIFKQTSKFDTSNHHDD 165

Db 121 SVFANSLVYVYASDNNVYDLKDLLEGGIQTLMGRLEDSPRTGQIFKQYKSKFDNHNDD 180
QY 166 ALLKNYGLLYCFRDMKDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRDMKDKVETFLRIVQCRSVEGSCGF 217

RESULT 6
US-08-759-628-11
; Sequence 11, Application US/08759628
; Patent No. 6225446
; GENERAL INFORMATION:
; APPLICANT: Altmann, Scott W.
; APPLICANT: Rock, Fernando L.
; APPLICANT: Bazan, J. Fernando
; APPLICANT: Kastelein, Robert A.
; TITLE OF INVENTION: MUTATIONAL VARIANTS OF MAMMALIAN PROTEINS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESS: DNAX Research Institute
; STREET: 901 California Avenue
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94304-1104
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/759,628
; FILING DATE: 05-DEC-1996
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/008,574
; FILING DATE: 06-DEC-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Ching, Edwin P.
; REGISTRATION NUMBER: 34,090
; REFERENCE/DOCKET NUMBER: DX0552Q
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-852-9196
; TELEFAX: 415-496-1200
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 217 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 32..53
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 94..115
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 133..153
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 192..210
; OTHER INFORMATION: /note= "The peptides above are
; OTHER INFORMATION: depicted in Figure 1"
US-08-759-628-11

Query Match 97.9%; Score 1024.5; DB 3; Length 217;
Best Local Similarity 92.6%; Pred. No. 5.1e-108;
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;
QY 1 MATGSRISLLAFGLLCLPWLQEGSAFPTPLSRFDNASRAHRLHQLAFDITYQEF--- 57

Db 1 MATGSRISLLAFGLLCLPWLQEGSAFPTPLSRFDNASRAHRLHQLAFDITYQEFEEA 60
QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 120
QY 106 SVFANSLVYVYASDNNVYDLKDLLEGGIQTLMGRLEDSPRTGQIFKQYKSKFDNHNDD 165
Db 121 SVFANSLVYVYASDNNVYDLKDLLEGGIQTLMGRLEDSPRTGQIFKQYKSKFDNHNDD 180
QY 166 ALLKNYGLLYCFRDMKDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRDMKDKVETFLRIVQCRSVEGSCGF 217

RESULT 7
US-09-284-878-1
; Sequence 1, Application US/09284878
; Patent No. 6342375
; GENERAL INFORMATION:
; APPLICANT: Olazaran, Martha Guerrero
; APPLICANT: Saldana, Hugo Barrera
; APPLICANT: Salgado, Jose Maria Viader
; TITLE OF INVENTION: Genetically Modified Methylotrophic P. pastoris Yeast for the
; TITLE OF INVENTION: Production and Secretion of the Human Growth Hormone
; FILE REFERENCE: 1829.0010000
; CURRENT APPLICATION NUMBER: US/09/284,878
; CURRENT FILING DATE: 1999-07-21
; PRIOR APPLICATION NUMBER: PCT/MX97/00033
; PRIOR FILING DATE: 1997-10-24
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 217
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-284-878-1

Query Match 97.9%; Score 1024.5; DB 4; Length 217;
Best Local Similarity 92.6%; Pred. No. 5.1e-108;
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;
QY 1 MATGSRISLLAFGLLCLPWLQEGSAFPTPLSRFDNASRAHRLHQLAFDITYQEF--- 57
Db 1 MATGSRISLLAFGLLCLPWLQEGSAFPTPLSRFDNASRAHRLHQLAFDITYQEFEEA 60
QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPVQFLR 120
QY 106 SVFANSLVYVYASDNNVYDLKDLLEGGIQTLMGRLEDSPRTGQIFKQYKSKFDNHNDD 165
Db 121 SVFANSLVYVYASDNNVYDLKDLLEGGIQTLMGRLEDSPRTGQIFKQYKSKFDNHNDD 180
QY 166 ALLKNYGLLYCFRDMKDKVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRDMKDKVETFLRIVQCRSVEGSCGF 217

RESULT 8
US-09-511-024A-1
; Sequence 1, Application US/09511024A
; Patent No. 6634554
; GENERAL INFORMATION:
; APPLICANT: Fallikov, Anton
; APPLICANT: Dahiyat, Bassil I.
; TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND PROTEINS WITH GROWTH HORMONE ACTIVITY
; FILE REFERENCE: A-67477-1/RFT/RMS/RMK
; CURRENT APPLICATION NUMBER: US/09/511,024A
; CURRENT FILING DATE: 2002-05-06
; PRIOR APPLICATION NUMBER: US 60/133,784
; PRIOR FILING DATE: 1999-05-12

Best Local Similarity 92.2%; Pred. No. 4.1e-107;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;
QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF--- 57
Db 1 MAAGSRSTLLAFGLLCLSWLQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEFEEA 60
QY 58 -----NPOTSICFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVPQFLR 105
Db 61 YIPKEQKSYFLQNPQTSICFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVPQFLR 120
QY 106 SVFANSLVYGASDSNVYDLKDLKEEGIQTLMGRLDGSPRTGQIFKQTSKFDNSHND 165
Db 121 SVFANSLVYGASDSNVYDLKDLKEEGIQTLMGRLDGSPRTGQIFKQTSKFDNSHND 180
QY 166 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 217

RESULT 11
US-09-411-657-4
; Sequence 4, Application US/09411657
; Patent No. 6566328
; GENERAL INFORMATION:
; APPLICANT: ROSEN, ET AL.
; TITLE OF INVENTION: Human Growth Factor
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Human Genome Sciences, Inc.
; STREET: 9410 Key West Avenue
; CITY: Rockville
; STATE: MD
; COUNTRY: USA
; ZIP: 20850
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/411.657
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/710,324
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Brookes, A. Anders
; REGISTRATION NUMBER: 36,373
; REFERENCE/DOCKET NUMBER: PF104D1.SKB
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 301-309-8504
; TELEFAX: 301-309-8439
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 217 AMINO ACIDS
; TYPE: AMINO ACID
; STRANDEDNESS:
; TOPOLOGY: LINEAR
; MOLECULE TYPE: PROTEIN
US-09-411-657-4

Query Match 97.1%; Score 1016.5; DB 4; Length 217;
Best Local Similarity 92.2%; Pred. No. 4.1e-107;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;
QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF--- 57
Db 1 MAAGSRSTLLAFGLLCLSWLQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEFEEA 60
QY 58 -----NPOTSICFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVPQFLR 105

Db 61 YIPKEQKSYFLQNPQTSICFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVPQFLR 120
QY 106 SVFANSLVYGASDSNVYDLKDLKEEGIQTLMGRLDGSPRTGQIFKQTSKFDNSHND 165
Db 121 SVFANSLVYGASDSNVYDLKDLKEEGIQTLMGRLDGSPRTGQIFKQTSKFDNSHND 180
QY 166 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 217
RESULT 12
US-08-187-756C-5
; Sequence 5, Application US/08187756C
; Patent No. 5597709
; GENERAL INFORMATION:
; APPLICANT: ROSEN, ET AL.
; TITLE OF INVENTION: Human Growth Hormone
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN,
; ADDRESSEE: CECCHI, STEWART & OLSTEIN
; STREET: 6 BECKER FARM ROAD
; CITY: ROSELAND
; STATE: NEW JERSEY
; COUNTRY: USA
; ZIP: 07068
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 INCH DISKETTE
; COMPUTER: IBM PS/2
; OPERATING SYSTEM: MS-DOS
; SOFTWARE: WORD PERFECT 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/187,756C
; FILING DATE: January 27, 1994
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: FERRARO, GREGORY D.
; REGISTRATION NUMBER: 36,134
; REFERENCE/DOCKET NUMBER: 325800-55
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 201-994-1700
; TELEFAX: 201-994-1744
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 198 AMINO ACIDS
; TYPE: AMINO ACID
; STRANDEDNESS:
; TOPOLOGY: LINEAR
; MOLECULE TYPE: PROTEIN
US-08-187-756C-5

Query Match 95.4%; Score 999; DB 1; Length 198;
Best Local Similarity 97.0%; Pred. No. 3.5e-105;
Matches 196; Conservative 0; Mismatches 2; Indels 4; Gaps 1;
QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEFNPQ 60
Db 1 MAAGSRSTLLAFGLLCLSWLQEGSAFTTIPLSRLFDNASLRAHRLHQLAFDTYQEF--- 57
QY 61 TSLCFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVPQFLRSVFANSLVYGASDSN 120
Db 58 -SLCFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVPQFLRSVFANSLVYGASDSN 116
QY 121 VYDLLKDLKEEGIQTLMGRLDGSPRTGQIFKQTSKFDNSHNDALLKNYGLLYCFRDM 180
Db 117 VYDLLKDLKEEGIQTLMGRLDGSPRTGQIFKQTSKFDNSHNDALLKNYGLLYCFRDM 176
QY 181 MDKVETFLRIVQCRSVEGSCGF 202

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Db 177 MDKVETFLRIVQCRSVESGCGF 198

RESULT 13
US-08-710-324A-5
; Sequence 5, Application US/08710324A
; Patent No. 5962411
; GENERAL INFORMATION:
; APPLICANT: Rosen, et al.
; TITLE OF INVENTION: Human Growth Factor
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Human Genome Sciences, Inc.
; STREET: 9410 Key West Avenue
; CITY: Rockville
; STATE: MD
; COUNTRY: USA
; ZIP: 20850
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/710,324A
; FILING DATE: 16-SEP-1996
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/187,756
; FILING DATE: 27-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Brookes, A. Anders
; REGISTRATION NUMBER: 36,373
; REFERENCE/DOCKET NUMBER: PF104D1.SKB
; TELEPHONE: 301-309-8504
; TELEFAX: 301-309-8439
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 198 AMINO ACIDS
; TYPE: AMINO ACID
; STRANDEDNESS:
; TOPOLOGY: LINEAR
; MOLECULE TYPE: PROTEIN
US-08-710-324A-5

Query Match 95.4%; Score 999; DB 2; Length 198;
Best Local Similarity 97.0%; Pred. No. 3.5e-105;
Matches 196; Conservative 0; Mismatches 2; Indels 4; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLOEGSAFPTIPLSRFLDNASLRAHRLHQLAFDTYQEFNQ 60
Db 1 MAAGSRSTLLAFGLLCLSWLOEGSAFPTIPLSRFLDNASLRAHRLHQLAFDTYQEF 57
QY 61 TSLCFSESIPTSNREETQOKSNLELLRISLLIOSWLEPVOFLRSVFANSLVYGASDSN 120
Db 58 -SLCFSESIPTSNREETQOKSNLELLRISLLIOSWLEPVOFLRSVFANSLVYGASDSN 116
QY 121 VYDLLKDLKEEGTQLMGRLEDGSPRTGQIFKQTSKFDNTHSHDDALLKNYGLLYCFRKD 180
Db 117 VYDLLKDLKEEGTQLMGRLEDGSPRTGQIFKQTSKFDNTHSHDDALLKNYGLLYCFRKD 176
QY 181 MDKVETFLRIVQCRSVESGCGF 202
Db 177 MDKVETFLRIVQCRSVESGCGF 198

RESULT 14
US-09-411-657-5
; Sequence 5, Application US/09411657
; Patent No. 6566328
; GENERAL INFORMATION:
; APPLICANT: Rosen, et al.

Db 177 MDKVETFLRIVQCRSVESGCGF 198

Query Match 95.4%; Score 999; DB 2; Length 198;
Best Local Similarity 97.0%; Pred. No. 3.5e-105;
Matches 196; Conservative 0; Mismatches 2; Indels 4; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLOEGSAFPTIPLSRFLDNASLRAHRLHQLAFDTYQEFNQ 60
Db 1 MAAGSRSTLLAFGLLCLSWLOEGSAFPTIPLSRFLDNASLRAHRLHQLAFDTYQEF 57
QY 61 TSLCFSESIPTSNREETQOKSNLELLRISLLIOSWLEPVOFLRSVFANSLVYGASDSN 120
Db 58 -SLCFSESIPTSNREETQOKSNLELLRISLLIOSWLEPVOFLRSVFANSLVYGASDSN 116
QY 121 VYDLLKDLKEEGTQLMGRLEDGSPRTGQIFKQTSKFDNTHSHDDALLKNYGLLYCFRKD 180
Db 117 VYDLLKDLKEEGTQLMGRLEDGSPRTGQIFKQTSKFDNTHSHDDALLKNYGLLYCFRKD 176
QY 181 MDKVETFLRIVQCRSVESGCGF 202
Db 177 MDKVETFLRIVQCRSVESGCGF 198

RESULT 15
US-08-784-582-73
; Sequence 73, Application US/08784582
; Patent No. 6110707
; GENERAL INFORMATION:
; APPLICANT: Newgard, Christopher B.
; APPLICANT: Halban, Philippe A.
; APPLICANT: No. 6110707mington, Karl D.
; APPLICANT: Clark, Samuel A.
; APPLICANT: Thigpen, Anice E.
; APPLICANT: Quade, Christian
; APPLICANT: Kruse, Fred
; APPLICANT: McGarry, Dennis
; TITLE OF INVENTION: RECOMBINANT EXPRESSION OF PROTEINS FROM
; SECRETORY CELL LINES
```

NUMBER OF SEQUENCES: 79
CORRESPONDENCE ADDRESS:
ADDRESSEE: Arnold, White & Durkee
STREET: P.O. Box 4433
CITY: Houston
STATE: Texas
COUNTRY: USA
ZIP: 77210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/784,592
FILING DATE: Concurrently Herewith
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/028,427
FILING DATE: 15-OCT-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/589,028
FILING DATE: 19-JAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: Highlander, Steven L.
REGISTRATION NUMBER: 37,642
REFERENCE/DOCKET NUMBER: USDS:514
TELECOMMUNICATION INFORMATION:
TELEPHONE: 512/418-3000
TELEFAX: 512/474-7577
INFORMATION FOR SEQ ID NO: 73:
SEQUENCE CHARACTERISTICS:
LENGTH: 360 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
US-08-784-582-73

Query Match 88.5%; Score 926.5; DB 3; Length 360;
Best Local Similarity 87.6%; Pred. No. 1.5e-96;
Matches 184; Conservative 4; Mismatches 7; Indels 15; Gaps 1;

Qy	1	MATGSRISLLAFGLLCLPWLQEGSAFPTIPLSRFLDNASLRHRLHQLAFDTYQEF---	57
Db	1	MATGSRISLLAFGLLCLPWLQEGSAFPTIPLSRFLDNAMLRHRLHQLAFDTYQEFEEA	60
Qy	58	-----NFQTSLCFSESPTPSNREETQCKSNLELLRISLLLIQSWLEVPQFLR	105
Db	61	YIPKEQKYSFTLQNPQTSLCFSESPTPSNREETQCKSNLELLRISLLLIQSWLEVPQFLR	120
Qy	106	SVFANSVLYGASDSNVYDLLKDLREGIQTLMGLEDDGSPRTGOIFKQYKEDTNSHND	165
Db	121	SVFANSVLYGASDSNVYDLLKDLREGIQTLMGLEDDGSPRTGOIFKQYKEDTNSHND	180
Qy	166	ALLKNYGLLYCFKDKMDKVFTRIVQCKS	195
Db	181	ALLKNYGLLYCFKDKMDKQKRSQDTTEKS	210

Search completed: July 12, 2004, 13:06:30
Job time : 23 secs

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OM protein - protein search, using sw model

Run on: July 12, 2004, 12:57:42 ; Search time 17 Seconds
(without alignments)

618.716 Million cell updates/sec

Title: US-09-856-796B-2

Perfect score: 1047

Sequence: 1 MATGSRSTSLLAFLGLCLPW.....KVETFLRVQSRVSGSCGF 202

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues

Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_42.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query Match	Score	Length	DB ID	Description
1	1024.5	97.9	217	1	SOMA_HUMAN
2	1018.5	97.3	217	1	SOMA_PANTR
3	981.5	93.7	217	1	SOMA_MACMU
4	955.5	91.3	217	1	SOMA2_PANTR
5	939.5	89.7	217	1	SOMA2_HUMAN
6	904.5	86.4	217	1	SOMA_SAIBB
7	895.5	85.5	217	1	SOMA_CALJA
8	872.5	83.3	217	1	PLI_HUMAN
9	829.5	79.2	217	1	SOMA2_MACMU
10	694	66.3	216	1	SOMA_PIG
11	693	66.2	216	1	SOMA_HORSE
12	687	65.6	216	1	SOMA_CANFA
13	687	65.6	216	1	SOMA_FELCA
14	682	65.1	216	1	SOMA_MESAU
15	682	65.1	216	1	SOMA_RABIT
16	679	64.9	216	1	SOMA_MOUSE
17	679	64.9	217	1	SOMA_CEREL
18	677	64.7	217	1	SOMA_BOVIN
19	672	64.2	216	1	SOMA_MUSVI
20	670	64.0	217	1	SOMA_BUBBU
21	667.5	63.8	217	1	SOMA_NYCPV
22	666	63.6	217	1	SOMA_SHEEP
23	663.5	63.2	217	1	SOMA_GALSE
24	661	63.1	216	1	SOMA_RAT
25	603	57.6	190	1	SOMA_LOXAF
26	602	57.5	190	1	SOMA_BALBO
27	601	57.4	190	1	SOMA_LAMPA
28	599.5	57.3	215	1	SOMA_MONDO
29	598.5	57.3	215	1	SOMA_TRIVU
30	598	57.1	190	1	SOMA_YULVU
31	551	52.6	216	1	SOMA_ANAPL
32	550	52.5	216	1	SOMA_CHICK
33	542	51.8	216	1	SOMA_MELGA

34 539.5 51.5 217 1 SOMA_STRCA
35 536 51.2 191 1 SOMA_CHEMY
36 534 51.0 190 1 SOMA_CRONO
37 496 47.4 214 1 SOMA_XENLA
38 492.5 47.0 211 1 SOMA_LEPOS
39 480 45.8 190 1 SOMA_ACIGU
40 467.5 44.7 215 1 SOMA_RANCA
41 465 44.4 190 1 SOM2_ACIGU
42 441.5 42.2 213 1 SOMA_BUFMA
43 432 41.3 208 1 SOMB_XENLA
44 413 39.4 206 1 SOMA_PROAN
45 389.5 37.2 209 1 SOMA_ANGJA

O9pwg3 struthio ca
P34005 chelonio my
P55755 crocodylus
P12855 xenopus lae
P79885 lepisosteus
P26773 acipenser g
P10813 rana catesb
P26774 acipenser g
O73849 bufo marinu
P12856 xenopus lae
O73848 protopteris
P08899 anguilla ja

ALIGNMENTS

RESULT 1
SOMA_HUMAN
ID SOMA_HUMAN STANDARD; PRT; 217 AA.
AC P01241; Q14405; Q16631; Q9HBZ1; Q9UMJ7; Q9UNL5;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAR-1992 (Rel. 21, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth hormone) (Growth hormone 1).
GN GH1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=80034477; PubMed=386281;
RA Roskam W., Rougeon F.;
RT "Molecular cloning and nucleotide sequence of the human growth hormone structural gene.";
RL Nucleic Acids Res. 7:305-320(1979).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=79203293; PubMed=377496;
RA Martial J.A., Hallewell R.A., Baxter J.D., Goodman H.M.;
RT "Human growth hormone: complementary DNA cloning and expression in bacteria.";
RL Science 205:602-607(1979).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM 1), AND POSSIBLE ALTERNATIVE SPLICING.
RX MEDLINE=82014939; PubMed=6269091;
RA Denoto F.M., Moore D.D., Goodman H.M.;
RT "Human growth hormone DNA sequence and mRNA structure: possible alternative splicing.";
RL Nucleic Acids Res. 9:3719-3730(1981).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=83182010; PubMed=7169009;
RA Seeburg P.H.;
RT "The human growth hormone gene family: nucleotide sequences show recent divergence and predict a new polypeptide hormone.";
RL DNA 1:239-249(1982).
RN [5]
RP SEQUENCE FROM N.A.
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gelinias R.E., Seeburg P.H.;
RT "The human growth hormone locus: nucleotide sequence, biology, and evolution.";
RL Genomics 4:479-497(1989).
RN [6]
RP SEQUENCE FROM N.A. (ISOFORM 3).
RC TISSUE=Pituitary;
RA Gu J., Huang Q.-H., Li N., Xu S.-H., Han Z.-G., Fu G., Chen Z.;
RT "A novel gene expressed in human pituitary.";
RL Submitted (SEP-1999) to the EMBL/GenBank/DBJ databases.

[7] Lewis U.J., Bonewald L.F., Lewis L.J.;
RT "The 20,000-dalton variant of human growth hormone: location of the
RT amino acid deletions."; Commun. 92:511-516 (1980).
RL Biochem. Biophys. Res. Commun. 92:511-516 (1980).
RN [17]
RP DRAMATIZATION OF GLN-163 AND ASN-178.
RX MEDLINE=82052997; PubMed=7028740;
RA Lewis U.J., Singh R.N., Bonewald L.F., Seavey B.K.;
RA "Altered proteolytic cleavage of human growth hormone as a result of
RT deamidation."; J. Biol. Chem. 256:11645-11650 (1981).
RL J. Biol. Chem. 256:11645-11650 (1981).
RN [18]
RP REVIEW.
RX MEDLINE=99321812; PubMed=10393484;
RA Baumann G.;
RT "Growth hormone heterogeneity in human pituitary and plasma.";
RL Horm. Res. 51 Suppl. 1:2-6 (1999).
RN [19]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=88190073; PubMed=3447173;
RA Cohen F.E., Kuntz I.D.;
RT "Prediction of the three-dimensional structure of human growth
RT hormone."; Proteins 2:162-166 (1987).
RN [20]
RP X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
RX MEDLINE=92196577; PubMed=1549776;
RA de Vos A.M., Ultsch M., Kossiakoff A.A.;
RT "Human growth hormone and extracellular domain of its receptor:
RT crystal structure of the complex."; Science 255:306-312 (1992).
RL Science 255:306-312 (1992).
RN [21]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
RX MEDLINE=95075462; PubMed=7984244;
RA Somers W., Ultsch M., de Vos A.M., Kossiakoff A.A.;
RT "The X-ray structure of a growth hormone-prolactin receptor complex.";
RL Nature 372:478-481 (1994).
RN [22]
RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
RX MEDLINE=97426478; PubMed=9276733;
RA Takahashi Y., Shirono H., Arisaka O., Takahashi K., Yagi T., Koga J.,
RA Kaji H., Okimura Y., Abe H., Tanaka T., Chihara K.;
RT "Biologically inactive growth hormone caused by an amino acid
RT substitution."; J. Clin. Invest. 100:1159-1165 (1997).
RN [27]
RP VARIANT CYS-105.
RX MEDLINE=99318093; PubMed=10391209;
RN [25]
RP ERRATUM.
RX MEDLINE=97426478; PubMed=9276733;
RA Takahashi Y., Kaji H., Okimura Y., Goji K., Abe H., Chihara K.;
RL New Engl. J. Med. 334:1207-1207 (1996).
RN [26]
RP VARIANT KOWARSKI SYNDROME GLY-138.
RX MEDLINE=97426478; PubMed=9276733;
RA Takahashi Y., Shirono H., Arisaka O., Takahashi K., Yagi T., Koga J.,
RA Kaji H., Okimura Y., Abe H., Tanaka T., Chihara K.;
RT "Biologically inactive growth hormone caused by an amino acid
RT substitution."; J. Clin. Invest. 100:1159-1165 (1997).
RN [27]
RP VARIANT CYS-105.
RX MEDLINE=99318093; PubMed=10391209;

[7] SEQUENCE FROM N.A. (ISOFORM 4).
RP TISSUE=Pituitary;
RX MEDLINE=20402571; PubMed=10931946;
RA Hu R.-M., Han Z.-G., Song H.-D., Peng Y.-D., Huang Q.-H., Ren S.-X.,
RA Gu Y.-J., Huang C.-H., Li Y.-B., Jiang C.-L., Fu G., Zhang Q.-H.,
RA Gu B.-W., Dai M., Mao Y.-F., Gao G.-F., Rong R., Ye M., Zhou J.,
RA Xu S.-H., Gu J., Shi J.-X., Jin W.-R., Zhang C.-K., Wu T.-M.,
RA Huang G.-Y., Chen Z., Chen M.-D., Chen J.-L.;
RT "Gene expression profiling in the human hypothalamus-pituitary-adrenal
RT axis and full-length cDNA cloning."; Proc. Natl. Acad. Sci. U.S.A. 97:9543-9548 (2000).
RL Proc. Natl. Acad. Sci. U.S.A. 97:9543-9548 (2000).
RN [8]
RP SEQUENCE OF 1-26 FROM N.A.
RX MEDLINE=86137393; PubMed=3912261;
RA Gray G.L., Baldrige J.S., McKeown K.S., Heyneker H.L., Chang C.N.;
RT "Periplasmic production of correctly processed human growth hormone in
RT Escherichia coli: natural and bacterial signal sequences are
RT interchangeable."; Gene 39:247-254 (1985).
RL Gene 39:247-254 (1985).
RN [9]
RP SEQUENCE OF 27-217.
RX MEDLINE=69289202; PubMed=5810834;
RA Li C.H., Dixon J.S., Liu W.-K.;
RT "Human pituitary growth hormone. XIX. The primary structure of the
RT hormone."; Arch. Biochem. Biophys. 133:70-91 (1969).
RN Arch. Biochem. Biophys. 133:70-91 (1969).
RN [10]
RP SEQUENCE OF 27-217, AND REVISIONS.
RX MEDLINE=72143935; PubMed=5144027;
RA Li C.H., Dixon J.S.;
RT "Human pituitary growth hormone. 32. The primary structure of the
RT hormone: revision."; Arch. Biochem. Biophys. 146:233-236 (1971).
RL Arch. Biochem. Biophys. 146:233-236 (1971).
RN [11]
RP REVISION.
RX MEDLINE=73092028; PubMed=4675454;
RA Bewley T.A., Dixon J.S., Li C.H.;
RT "Sequence comparison of human pituitary growth hormone, human
RT chorionic somatomammotropin, and ovine pituitary growth and
RT lactogenic hormones."; Int. J. Pept. Protein Res. 4:281-287 (1972).
RL Int. J. Pept. Protein Res. 4:281-287 (1972).
RN [12]
RP SEQUENCE OF 27-61 AND 102-124.
RX MEDLINE=71139765; PubMed=5279046;
RA Niall H.D.;
RT "Revised primary structure for human growth hormone.";
RL Nature New Biol. 230:90-91 (1971).
RN [13]
RP REVISIONS TO 119-120 AND 157-159.
RX MEDLINE=71153968; PubMed=5279528;
RA Niall H.D., Hogan M.L., Sauer R., Rosenblum I.Y., Greenwood F.C.;
RT "Sequences of pituitary and placental lactogenic and growth hormones:
RT evolution from a primordial peptide by gene reduplication."; Proc. Natl. Acad. Sci. U.S.A. 68:866-869 (1971).
RL Proc. Natl. Acad. Sci. U.S.A. 68:866-869 (1971).
RN [14]
RP REVISION.
RX MEDLINE=81117361; PubMed=7462247;
RA Chapman G.E., Rogers K.M., Brittain T., Bradshaw R.A., Bates O.J.,
RA Turner C., Cary P.D., Crane-Robinson C.;
RT "The 20,000 molecular weight variant of human growth hormone.
RT Preparation and some physical and chemical properties."; J. Biol. Chem. 256:2395-2401 (1981).
RL J. Biol. Chem. 256:2395-2401 (1981).
RN [16]
RP SEQUENCE OF 46-80 (ISOFORM 2).
RX MEDLINE=80130196; PubMed=7356479;

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Query Match          97.9%; Score 1024.5; DB 1; Length 217;
Best Local Similarity 92.6%; Pred. No. 4.2e-86;
Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLFDNASRAHRLHQLAFDTYQEF--- 57
DB 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLFDNASRAHRLHQLAFDTYQEFEEA 60
QY 58 -----NPTSICFSSSIPTPSNRRTQOKSNLELRISILLIQSWLEPVQFLR 105
DB 61 YIPKEQKSYFLQNPQTSICFSSSIPTPSNRRTQOKSNLELRISILLIQSWLEPVQFLR 120
QY 106 SVFANSLVYGASDSNVYDLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKEDTNSHND 165
DB 121 SVFANSLVYGASDSNVYDLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKEDTNSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 2
SOMA_PANTR
ID SOMA_PANTR STANDARD; PRT; 217 AA.
AC P59756;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE hormone) (Growth hormone 1).
GN GH1.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
OX NCBI_TaxID=9598;
RN [1]
RP SEQUENCE FROM N.A.
RA Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RT "Independent duplication of the growth hormone gene in three
RT Anthropoid lineages."
RT Submitted (Apr-2001) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Plays an important role in growth control. Its major
CC role in stimulating body growth is to stimulate the liver and
CC other tissues to secrete IGF-1. It stimulates both the
CC differentiation and proliferation of myoblasts. It also stimulates
CC amino acid uptake and protein synthesis in muscle and other
CC tissues (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC -----
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation
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CC or send an email to license@isb-sib.ch).
CC -----
DB EMBL; AF374232; AAL72284.1; -
DB InterPro; IPR001400; Somatotropin.
DB Pfam; PF00103; hormone; 1.
DB PRINTS; PR00836; SOMATOTROPIN.
DB PROSITE; PS00266; SOMATOTROPIN_1; 1.
DB PROSITE; PS00338; SOMATOTROPIN_2; 1.
DB KX Hormone; Pituitary; Signal.
DB FT SIGNAL 1 26 BY SIMILARITY.
DB FT CHAIN 27 217 BY SOMATOTROPIN.
DB FT DISULFID 79 191 BY SIMILARITY.
DB FT DISULFID 208 215 BY SIMILARITY.
DB SQ SEQUENCE 217 AA; 24843 MW; FEA295EDE0518674 CRC64;

Query Match          97.3%; Score 1018.5; DB 1; Length 217;
Best Local Similarity 92.2%; Pred. No. 1.5e-85;
Matches 200; Conservative 0; Mismatches 2; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLFDNASRAHRLHQLAFDTYQEF--- 57
DB 1 MAPGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLFDNASRAHRLHQLAFDTYQEFEEA 60
QY 58 -----NPTSICFSSSIPTPSNRRTQOKSNLELRISILLIQSWLEPVQFLR 105
DB 61 YIPKEQKSYFLQNPQTSICFSSSIPTPSNRRTQOKSNLELRISILLIQSWLEPVQFLR 120
QY 106 SVFANSLVYGASDSNVYDLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKEDTNSHND 165
DB 121 SVFANSLVYGASDSNVYDLKDLREGIQTLMGRLEDGSPRTQIIFKQTYSKEDTNSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 3
SOMA_MACMU
ID SOMA_MACMU STANDARD; PRT; 217 AA.
AC P33033;
DT 01-OCT-1993 (Rel. 27, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE hormone) (Growth hormone 1).
GN GH1.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
OC Cercopitheinae; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94008724; PubMed=8404617;
RA Golos T.G., Durning M., Fisher J.M., Fowler P.D.;
RT "Cloning of four growth hormone/chorionic somatomotropin-related
RT complementary deoxyribonucleic acids differentially expressed during
RT pregnancy in the rhesus monkey placenta."
RL Endocrinology 133:1744-1752(1993).
RN [2]
RP SEQUENCE OF 27-217.
RX MEDLINE=86129460; PubMed=3080959;
RA Li C.H., Chung D., Lahm H.W., Stein S.;
RT "The primary structure of monkey pituitary growth hormone."
RL Arch. Biochem. Biophys. 245:287-291(1986).
CC -!- FUNCTION: Plays an important role in growth control. Its major
CC role in stimulating body growth is to stimulate the liver and
CC other tissues to secrete IGF-1. It stimulates both the
CC differentiation and proliferation of myoblasts. It also stimulates
CC amino acid uptake and protein synthesis in muscle and other
CC tissues.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DB EMBL; L16556; AAL18842.1; -
DB PIR; I67410; I67410.
DB HSSP; P01241; IAXI.
DB InterPro; IPR001400; Somatotropin.
DB Pfam; PF00103; hormone; 1.
DB PRINTS; PR00836; SOMATOTROPIN.
DB PROSITE; PS00266; SOMATOTROPIN_1; 1.

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DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 SOMATOTROPIN.
FT CHAIN 27 217 BY SIMILARITY.
FT DISULFID 79 191 BY SIMILARITY.
FT DISULFID 208 215 BY SIMILARITY.
FT CONFLICT 100 100 E -> O (IN REF. 2).
FT CONFLICT 179 179 N -> D (IN REF. 2).
SQ SEQUENCE 217 AA; 24913 MW; 2C5180341EBC46D0 CRC64;

Query Match 93.7%; Score 981.5; DB 1; Length 217;
Best Local Similarity 88.9%; Pred. No. 3.4e-82;
Matches 193; Conservative 3; Mismatches 6; Indels 15; Gaps 1;

QY 1 MATGRTSLLALFGLLCLPWLQEGSAFPTPLSRFLFNASIRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRTSLLALFALLCLPWLQEGSAFPTPLSRFLFNASIRAHRLHQLAFDTYQEFEEA 60
QY 58 -----NPQTSLCFSSEIPTPSNRBEETQCKNLELLRISLLLIQSWLEPVQFLR 105
DB 61 YIPKEQKYSFLQNPQTSLCFSSEIPTPSNRBEETQCKNLELLRISLLLIQSWLEPVQFLR 120
QY 106 SVFANSIVYGASDSNVYDLKLEEGITQTLGRLEDGSPRTGQIFKQYKFTNSHND 165
DB 121 SVFANSIVYGTSDYVYDLKLEEGITQTLGRLEDGSSRTGQIFKQYKFTNSHND 180
QY 166 ALLKNYGLLYCFRKMDKVFETFLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRKMDKVFETFLRIVQCRSVEGSCGF 217

RESULT 4
SOM2_PANTR STANDARD; PRT; 217 AA.
AC PS8757;
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Growth hormone variant precursor (GH-V) (Placenta-specific growth hormone) (Growth hormone 2).
GN GH2.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
OX NCBI_TaxID=9598;
RN [1]
RP SEQUENCE FROM N.A.
RA Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RT "Independent duplication of the growth hormone gene in three Anthropoid lineages."
RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: Plays an important role in growth control. Its major role in stimulating body growth is to stimulate the liver and other tissues to secrete IGF-1. It stimulates both the differentiation and proliferation of myoblasts. It also stimulates amino acid uptake and protein synthesis in muscle and other tissues.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: Expressed in the placenta.
CC -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC
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CC
CC EMBL; AF374233; AAL72285.1;
CC InterPro; IPR001400; Somatotropin.
CC Pfam; PF00103; hormone; 1.
CC PRINTS; PR00836; SOMATOTROPIN.
CC
```

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DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
KW Hormone; Placenta; Signal; Glycoprotein.
FT SIGNAL 1 26 BY SIMILARITY.
FT CHAIN 27 217 GROWTH HORMONE VARIANT.
FT DISULFID 79 191 BY SIMILARITY.
FT DISULFID 208 215 BY SIMILARITY.
SQ SEQUENCE 217 AA; 24990 MW; 1592AA429075677DE CRC64;

Query Match 91.3%; Score 955.5; DB 1; Length 217;
Best Local Similarity 87.1%; Pred. No. 8e-80;
Matches 189; Conservative 4; Mismatches 9; Indels 15; Gaps 1;

QY 1 MATGRTSLLALFGLLCLPWLQEGSAFPTPLSRFLFNASIRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRTSLLALFGLLCLPWLQEGSAFPTPLSRFLFNASIRAHRLHQLAFDTYQEFEEA 60
QY 58 -----NPQTSLCFSSEIPTPSNRBEETQCKNLELLRISLLLIQSWLEPVQFLR 105
DB 61 YILKEQKYSFLQNPQTSLCFSSEIPTPSNRBEETQCKNLELLRISLLLIQSWLEPVQFLR 120
QY 106 SVFANSIVYGASDSNVYDLKLEEGITQTLGRLEDGSPRTGQIFKQYKFTNSHND 165
DB 121 SVFANSIVYGASDSNVYDLKLEEGITQTLGRLEDGSPRTGQIFKQYKFTNSHND 180
QY 166 ALLKNYGLLYCFRKMDKVFETFLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRKMDKVFETFLRIVQCRSVEGSCGF 217

RESULT 5
SOM2_HUMAN STANDARD; PRT; 217 AA.
AC P01242; P09587;
DT 21-JUL-1986 (Rel. 01, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Growth hormone variant precursor (GH-V) (Placenta-specific growth hormone) (Growth hormone 2).
GN GH2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=83182010; PubMed=7169009;
RA Seeburg P.H.;
RT "The human growth hormone gene family: nucleotide sequences show recent divergence and predict a new polypeptide hormone."
RL DNA 1:239-249 (1982).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
RX MEDLINE=86243769; PubMed=3379057;
RA Cooke N.E., Ray J., Emery J.G., Liebhaber S.A.;
RT "Two distinct species of human growth hormone-variant mRNA in the human placenta predict the expression of novel growth hormone proteins."
RL J. Biol. Chem. 263:9001-9006 (1988).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM 1).
RX MEDLINE=89024984; PubMed=2460050;
RA Igout A., Schippo M.L., Frankenne F., Hennen G.;
RT "Cloning and nucleotide sequence of placental hGH-V cDNA."
RL Arch. Int. Physiol. Biochim. 96:63-67 (1988).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A.,
RA Gelinias R.E., Seeburg P.H.;
RT "The human growth hormone locus: nucleotide sequence, biology, and evolution."
RL Genomics 4:479-497 (1989).
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RN RA STRAUSBERG R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RP SEQUENCE FROM N.A.
RC TISSUE=Placenta;
RX MEDLINE=22388257; PubMed=12477932;
RA Klausner R.D., Collins F.S., Wagner L., Shemmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diachenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Donald M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McKernan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickinson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalhus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length
human and mouse cDNA sequences."
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
RN [6]
RP REVIEW.
RX MEDLINE=99321812; PubMed=10393484;
RA Baumann G.;
RT "Growth hormone heterogeneity in human pituitary and plasma.";
Horm. Res. 51 Suppl. 1:2-6(1999).
CC -!- FUNCTION: Plays an important role in growth control. Its major
role in stimulating body growth is to stimulate the liver and
other tissues to secrete IGF-1. It stimulates both the
differentiation and proliferation of myoblasts. It also stimulates
amino acid uptake and protein synthesis in muscle and other
tissues.
CC -!- SUBUNIT: Monomer, dimer, trimer, tetramer and pentamer, disulfide-
linked or non-covalently associated, in homopolymeric and
heteropolymeric combinations. Can also form a complex either with
GHBP or with the alpha2-macroglobulin complex.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=2;
Name=1; Synonyms=GH-V1;
IsoId=P01242-1; Sequence=Displayed;
Name=2; Synonyms=GH-V2;
IsoId=P01242-2; Sequence=VSP_006203;
Note=No experimental confirmation available;
CC -!- TISSUE SPECIFICITY: Expressed in the placenta.
CC -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC -----
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CC -----
DR EMBL; K00470; AAA98619.1; -
DR EMBL; J03756; AAB59547.1; -
DR EMBL; J03756; AAB59548.1; -
DR EMBL; M38451; AAA35891.1; -
DR EMBL; J03071; AAA52552.1; -
DR EMBL; BC020760; AAH20760.1; -
DR PIR; A28072; STHUV2.
DR PIR; D32435; STHUV.
DR HSSP; P01241; 1A22.
DR Genew; HGNC:4262; GH2.
DR MIM; 139240; -
DR GO; GO:0005180; F:peptide hormone; TAS.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.

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DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Placenta; Signal; Glycoprotein; Alternative splicing;
KW Polymorphism.
FT SIGNAL 1 26
FT CHAIN 27 217
FT DISULFID 79 191
FT DISULFID 208 215
FT CARBOHYD 166 166
FT VARSPLIC 153 217
FT -----
FT RLEDSGSPRTGQFNQSYKFDKSHNDALLKNYGLLYCFR
FT KMDKVKETFLRIVQCRSVEGSCGF -> VRVAPGFIENPGAP
FT LASRWGKHCCPLFSQALTEQNSPYSPFLVNPFGLSLQ
FT PGEGGKMNREQCPSAWPILFLHFAEAGRWQPPDWA
FT DLQSVLQOV (in isoform 2).
FT /FTId=VSP_006203.
FT VARIANT 90 90
FT R -> W (in dbSNP:5389).
FT /FTId=VAR_014591.
FT CONFLICT 109 109
FT I -> T (in REF. 2).
FT SEQUENCE 217 AA; 24999 MW; 7B9324698E822F96 CRC64;
Query Match 89.7%; Score 939.5; DB 1; Length 217;
Best Local Similarity 86.2%; Pred No. 2.3e-78;
Matches 187; Conservative 4; Mismatches 11; Indels 15; Gaps 1;
QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTPLSRFLFDNASRAHRLHQLAFDTYQEF--- 57
Db 1 MAAGSRSTLLAFGLLCLPWLQEGSAFPTPLSRFLFDNASRAHRLHQLAFDTYQEFEEA 60
QY 58 -----NPQTSLCFSESIPTPSNRERTQOKSNLELRISLLILQSWLEPVQFLR 105
Db 61 YLKEQKYSFQNPQTSLCFSESIPTPSNRVKTQOKSNLELRISLLILQSWLEPVQFLR 120
QY 106 SVFANSLVYGASDSNVYDLLKDLREGIOTLMGRLEDGSPRTGQIFKQTYSKFDTNSHND 165
Db 121 SVFANSLVYGASDSNVYRHLKDLREGIOTLMWRLEDGSPRTGQIFNQSYKFDTKSHND 180
QY 166 ALLKNYGLLYCFRKMDKVKETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVKETFLRIVQCRSVEGSCGF 217
RESULT 6
SOMA_SAIBB STANDARD; PRT; 217 AA.
AC P58343;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GH1.
OS Saimiri boliviensis boliviensis (Bolivian squirrel monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Saimiri.
OX NCBI_TaxID=39432;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=21265430; PubMed=11371582;
RA Liu J.C., Makova K.D., Adkins R.M., Gibson S., Li W.H.;
RT "Episodic evolution of growth hormone in primates and emergence of the
species specificity of human growth hormone receptor.";
RL Mol. Biol. Evol. 18:945-953(2001).
CC -!- FUNCTION: Plays an important role in growth control. Its major
role in stimulating body growth is to stimulate the liver and
other tissues to secrete IGF-1. It stimulates both the
differentiation and proliferation of myoblasts. It also stimulates
amino acid uptake and protein synthesis in muscle and other
tissues (by similarity).
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC -----
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CC -----
 DR EMBL; AF339060; AAK52287.1; -.
 DR InterPro; IPR001400; Somatotropin.
 DR Pfam; PF00103; hormone; 1.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Pituitary; Signal.
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 217 SOMATOTROPIN.
 FT DISULFID 79 191 BY SIMILARITY.
 FT DISULFID 208 215 BY SIMILARITY.
 SQ SEQUENCE 217 AA; 24864 MW; 9515289992C529F7 CRC64;

Query Match 86.4%; Score 904.5; DB 1; Length 217;
 Best Local Similarity 82.0%; Pred. No. 3.5e-75;
 Matches 178; Conservative 10; Mismatches 14; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCPWLQEGSAPPTIPLSLFLDNASLRHRLHQLAFDTYQEF--- 57
 DB 1 MATGSRSTLLAFGLLCPWLQEGSAPPTIPLSLFLDNAMLRHRLHQLAFDTYQEFEEA 60
 QY 58 -----NPQSLCFSESIPTPSNREETQOKSNLELLRLISLLIQSWLEFPVQFLR 105
 DB 61 YIPKEQKYSFLQNPQSLCFSESIPTPASKKETQOKSNLELLRLISLLIQSWLEFPVQFLR 120
 QY 106 SVFANSIVYGASDNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQYKFDNNSDND 165
 DB 121 SVFANSILYGVSDVYELKLEEGIQTLMGRLDGSPRTGALFRQYKFDNNSDND 180
 QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 202
 DB 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 217

RESULT 7

SOMA CALJA STANDARD; PRT; 217 AA.
 ID OGMB3;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Somatotropin precursor (Growth hormone).
 GN GH1.
 OS Callithrix jacchus (Common marmoset).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae;
 OC Callithrix.
 OX NCBI_TaxID=9483;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Wallis O.C., Wallis M.;
 RT "Cloning and characterisation of a putative growth hormone encoding
 RL gene from the marmoset (Callithrix jacchus).";
 CC Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: Plays an important role in growth control. Its major
 CC role in stimulating body growth is to stimulate the liver and
 CC other tissues to secrete IGF-1. It stimulates both the
 CC differentiation and proliferation of myoblasts. It also stimulates
 CC amino acid uptake and protein synthesis in muscle and other
 CC tissues (by similarity).
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: Belongs to the somatotropin/prolactin family.

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CC -----
 DR EMBL; AJ297563; CAC03481.1; -.
 DR HSSP; P01241; 1A22.
 DR InterPro; IPR001400; Somatotropin.
 DR Pfam; PF00103; hormone; 1.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Pituitary; Signal.
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 217 SOMATOTROPIN.
 FT DISULFID 79 191 BY SIMILARITY.
 FT DISULFID 208 215 BY SIMILARITY.
 SQ SEQUENCE 217 AA; 24959 MW; E102151A12CE6192 CRC64;

Query Match 85.5%; Score 895.5; DB 1; Length 217;
 Best Local Similarity 81.1%; Pred. No. 2.3e-74;
 Matches 176; Conservative 11; Mismatches 15; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCPWLQEGSAPPTIPLSLFLDNASLRHRLHQLAFDTYQEF--- 57
 DB 1 MAAGSWTSLLAFTLLCLPQLREAGAPPTIPLSKLLDNAMLRHRLHQLAFDTYQEFEEA 60
 QY 58 -----NPQSLCFSESIPTPSNREETQOKSNLELLRLISLLIQSWLEFPVQFLR 105
 DB 61 YIPKEQKYSFLQNPQSLCFSESIPTPASKKETQOKSNLELLRLISLLIQSWLEFPVQFLR 120
 QY 106 SVFANSIVYGASDNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQYKFDNNSDND 165
 DB 121 SVFANSILYGVSDVYELKLEEGIQTLMGRLDGSPRTGELFMQYKFDVNSQND 180
 QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 202
 DB 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 217

RESULT 8

PLL_HUMAN STANDARD; PRT; 217 AA.
 ID P01243;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-APR-1988 (Rel. 07, Last sequence update)
 DT 15-MAR-2004 (Rel. 43, Last annotation update)
 DE Lactogen precursor (Choriomamotropin) (Chorionic somatomamotropin).
 GN CSH1 AND CSH2.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A. (GENE CSH1).
 RA MEDLINE=85030426; PubMed=6208192;
 RA Selby M.J., Barta A., Baxter J.D., Bell G.I., Eberhardt N.L.;
 RT "Analysis of a major human chorionic somatomamotropin gene. Evidence
 RT for two functional promoter elements.";
 RL J. Biol. Chem. 259:13131-13138(1984).
 RN [2]
 RP SEQUENCE FROM N.A. (GENE CSH2).
 RA MEDLINE=87161235; PubMed=3030680;
 RA Hirt H., Kimelman J., Birnbaum M.J., Chen E.Y., Seeburg P.H.,
 RA Eberhardt N.L., Barta A.;
 RT "The human growth hormone gene locus: structure, evolution, and
 RT allelic variations.";
 RL DNA 6:59-70(1987).
 RN [3]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=83160916; PubMed=6300056;
 RA Barrera-Galdana H.A., Seeburg P.H., Saunders G.F.;
 RT "Two structurally different genes produce the same secreted human
 RT placental lactogen hormone.";

J. Biol. Chem. 258:3787-3793 (1983).
 [4]
 SEQUENCE FROM N.A. (GENES CSH1 AND CSH2).
 MEDLINE=89307277; PubMed=2744760;
 RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gelinas R.E.,
 RA Seeburg P.H.:
 "The human growth hormone locus: nucleotide sequence, biology, and
 RT evolution.";
 RL Genomics 4:479-497 (1989).
 [5]
 SEQUENCE.
 RP MEDLINE=83182010; PubMed=7169009;
 RA Seeburg P.H.:
 "The human growth hormone gene family: nucleotide sequences show
 RT recent divergence and predict a new polypeptide hormone.";
 RL DNA 1:239-249 (1982).
 [6]
 SEQUENCE FROM N.A.
 RP TISSUE=Placenta, and Uterus;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.P., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaly S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
 RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.:
 "Generation and initial analysis of more than 15,000 full-length
 RT human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
 [7]
 SEQUENCE OF 50-217 FROM N.A.
 RP MEDLINE=78071761; PubMed=593368;
 RA Shine J., Seeburg P.H., Martial J.A., Baxter J.D., Goodman H.M.:
 "Construction and analysis of recombinant DNA for human chorionic
 RT somatomammotropin.";
 RL Nature 270:494-499 (1977).
 [8]
 SEQUENCE OF 27-217.
 RP MEDLINE=73201971; PubMed=4712450;
 RA Li C.H., Dixon J.S., Chung D.:
 "Amino acid sequence of human chorionic somatomammotropin.";
 RL Arch. Biochem. Biophys. 155:95-110 (1973).
 [9]
 SEQUENCE OF 72016313; PubMed=5286363;
 RP MEDLINE=72016313; PubMed=5286363;
 RA Sherwood L.M., Handwerger S., McLaurin W.D., Lanner M.:
 "Amino acid sequence of human placental lactogen.";
 RL Nature New Biol. 233:59-61 (1971).
 [10]
 ERRATUM.
 RA Sherwood L.M., Handwerger S., McLaurin W.D., Lanner M.:
 RL Nature New Biol. 235:64-64 (1972).
 [11]
 INTERCHAIN DISULFIDE BONDS.
 RX MEDLINE=79173081; PubMed=438159;
 RA Schneider A.B., Kowalski K., Russell J., Sherwood L.M.:
 "Identification of the interchain disulfide bonds of dimeric human
 RT placental lactogen.";
 RL J. Biol. Chem. 254:3782-3787 (1979).
 CC -!- FUNCTION: Similar to that of somatotropin.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- MISCELLANEOUS: The sequence of CSH1 is shown.

CC -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
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 DR EMBL; V00573; CAA23836.1; -
 DR EMBL; J00289; AAA98747.1; -
 DR EMBL; K02401; AAA52115.1; -
 DR EMBL; M15894; AAA52116.1; -
 DR EMBL; J03071; AAA52551.1; -
 DR EMBL; J00118; AAA98621.1; -
 DR EMBL; BC02717; AAH02717.1; -
 DR EMBL; BC005921; AAH05921.1; -
 DR EMBL; BC020756; AAH20756.1; -
 DR PIR; A26449; A26449.
 DR PIR; C32435; LCHUC.
 DR HSSP; P01241; LA22.
 DR Genew; HGNC:2440; CSH1.
 DR Genew; HGNC:2441; CSH2.
 DR MIM; 150200; -
 DR GO; GO:0007565; P:pregnancy; TAS.
 DR InterPro; IPR001400; Somatotropin.
 DR Pfam; PF00103; hormone; 1.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN 1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN 2; 1.
 KW Hormone; Placenta; Multi-gene family; Signal.
 FT SIGNAL 1 26
 FT CHAIN 27 217 LACTOGEN.
 FT DISULFID 79 191
 FT DISULFID 208 215
 FT DISULFID 208 208
 FT DISULFID 215 215
 FT VARIANT 3 3
 FT VARIANT 104 105
 FT CONFLICT 84 84
 FT CONFLICT 95 95
 FT CONFLICT 116 116
 FT CONFLICT 134 136
 SQ SEQUENCE 217 AA; 25020 MW; 235B0DC7A713F431 CRC64;
 Query Match 83.3%; Score 872.5; DB 1; Length 217;
 Best Local Similarity 79.3%; Pred. No. 2.9e-72;
 Matches 172; Conservative 11; Mismatches 19; Indels 15; Gaps 1;
 QY 1 MATGRTSLLAFGLCLPWLQEGSAFTPIPLSLFDNASLRAHLHQLADPTQDEF--- 57
 Db 1 MAPGRTSLLAFGLCLPWLQEGAGVQTVPLSLRDLFHAMLQAHRAHQLADPTQDEF 60
 QY 58 -----NPQTSCLFSESIPTPSNREETQOKSNELELRISLLIQSWLEPQFLR 105
 Db 61 YIPKQKYSFLHDSQTSFCFSDSIPTPSNMEETQOKSNELELRISLLIQSWLEPQFLR 120
 QY 106 SVFANSLVYGASDSNVYDLKDLERGIOTLMGRLEDGSPRTGQIPKQYKSPFTNSHND 165
 Db 121 SMFANNLVYDTSDDYHLLKDLLEEGITLMGRLEDGSRRTGQILKQYKSPFTNSHND 180
 QY 166 ALLKNGYGLYCFRDKMDKVTFLRVQCRSVEGSCGF 202
 Db 181 ALLKNGYGLYCFRDKMDKVTFLRVQCRSVEGSCGF 217
 RESULT 9
 ID SOM2 MACMU STANDARD; PRY; 217 AA.
 AC Q07370; Q28494;


```

CC CC      tissues.
CC CC      -!- SUBCELLULAR LOCATION: Secreted.
CC CC      -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC CC      -----
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CC CC      or send an email to license@isb-sib.ch).
CC CC      -----
CC DR      EMBL; X53325; CAA37411.1; -
CC DR      EMBL; M17704; AAA31044.1; -
CC DR      EMBL; U19788; AAA37478.1; AUT_INIT.
CC DR      EMBL; M27326; AAA31045.1; -
CC DR      EMBL; S72386; AAB29947.2; -
CC DR      EMBL; U73464; AAB17619.1; -
CC DR      PIR; JWO015; STPG.
CC DR      HSSP; P01246; 1BST.
CC DR      InterPro; IPR001400; Somatotropin.
CC DR      Pfam; PF00103; hormone; 1.
CC DR      PRINTS; PR00836; SOMATOTROPIN.
CC DR      PROSITE; PS00266; SOMATOTROPIN_1; 1.
CC DR      PROSITE; PS00338; SOMATOTROPIN_2; 1.
CC DR      Hormone; Pituitary; Signal.
CC KW      SIGNAL 1 26
CC FT      CHAIN 27 216 SOMATOTROPIN.
CC FT      DISULFID 78 189 BY SIMILARITY.
CC FT      DISULFID 206 214 BY SIMILARITY.
CC FT      CONFLICT 9 9 A -> V (IN REF. 5).
CC FT      CONFLICT 22 22 R -> Q (IN REF. 5).
CC FT      CONFLICT 78 78 C -> F (IN REF. 3).
CC FT      CONFLICT 116 116 Q -> T (IN REF. 3).
CC FT      CONFLICT 135 135 H -> N (IN REF. 4).
CC FT      CONFLICT 203 203 V -> L (IN REF. 3).
CC FT      CONFLICT 206 206 C -> S (IN REF. 3).
CC SQ      SEQUENCE 216 AA; 24429 MW; 0216931D6BE76D14 CRC64;

Query Match 66.3%; Score 694; DB 1; Length 216;
Best Local Similarity 64.1%; Pred. No. 5e-56;
Matches 139; Conservative 20; Mismatches 42; Indels 16; Gaps 3;

QY 1 MATGRTSLLLAFGLLCLPWLQEGSAFTPIPLSRFLFNDASLRHLHQLAFTTYQEF--- 57
Db 1 MAAGPRTSALLAFGLLCLPWLQEGSAFTPIPLSRFLFNDASLRHLHQLAFTTYQEF 60

QY 58 -----NPQTSLCFSESIPTPSNREETOQKSNLELRISLLLIQSWLEPVQFLRS 106
Db 61 YIPEGQYSIQNAQAAFCSEFTIPATGKDEAQQRSDVELLRFSLLLIQSWLGPVQFLSR 120

QY 107 VPANSLVYGADSNVYLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDTSNHNDDA 166
Db 121 VFTNSLVFGTSD-RVYEKLKLEEGIQALMRELDGSPRAGQILKQTYDKFDTNLSDDA 179

QY 167 LKKNYGLLYCPKMDKVETFLRIVQCRS-VEGSGCF 202
Db 180 LKKNYGLLSFCFKDLHLKAEFTYLRVMKCRFRVSSCAF 216

RESULT 11
SOMA_HORSE
ID SOMA_HORSE STANDARD; PRT; 216 AA.
AC P01245;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Somatotropin precursor (Growth hormone).
GN GHI.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;

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CC or send an email to license@isb-sib.ch).
-----
DR EMBL; Z38127; CAA86287.1; -.
DR PIR; S49483; S49483.
DR HSP; P01246; 1BST.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
FT SIGNAL 1 26 POTENTIAL.
FT CHAIN 27 216 SOMATOTROPIN.
FT DISULFID 78 189 BY SIMILARITY.
FT DISULFID 206 214 BY SIMILARITY.
SQ SEQUENCE 216 AA; 24433 MW; 6EC19748199FD75 CRC64;

Query Match          65.1%; Score 682; DB 1; Length 216;
Best Local Similarity 63.1%; Pred. No. 6.2e-55;
Matches 137; Conservative 21; Mismatches 43; Indels 16; Gaps 3;

Qy 1 MATGSRISLLAFGLLCLPWLQEGSAFTTIPLSRLFDNASLRHRLHQLAPDTYQEF--- 57
Db 1 MAGSWTAGLIAFALLCLPWPQEAFAFPAMPLSSLFANAVLRAQHQLQAADTYKEFERA 60
Qy 58 -----NPQTSLCFSESITPSNREETQOKSNLELRISILLIQSWLEPVQFLRS 106
Db 61 YIPEGQRYSIONAQAACFSETIPATCKDAQQRSDMELLRFSLLLIQSWLGPVQFLSR 120
Qy 107 VFANSLVYGASDSNVYDILLKDLREGIQTLMGRLDGGSPRTGQIFKQTYSKFDTNSHNDDA 166
Db 121 AFTWTLVFGTSD-RVYEKLDLEGGIQALMRELEDGSPRGVQLLKQTYDKFDTNLRGDDA 179
Qy 167 LLKNYGLLYCPKMDKVETFLRIVQCRS-VEGSGCF 202
Db 180 LLKNYGLLSCPKDLHKAETVLRVMKCRFVSSCVF 216

Search completed: July 12, 2004, 13:04:24
Job time : 18 secs

```

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 12, 2004, 13:01:07 ; Search time 45 Seconds
(without alignments)
1416.326 Million cell updates/sec

Title: US-09-856-796B-2

Perfect score: 1047

Sequence: 1 MATSRTSLLLAFLGLCLPW.....KVETFLRIVQCRSVEGSGCF 202

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SPTREMBL 25:*

- 1: sp archaea:*
- 2: sp_bacteria:*
- 3: sp_fungi:*
- 4: sp_human:*
- 5: sp_invertebrate:*
- 6: sp_mammal:*
- 7: sp_mhc:*
- 8: sp_organelle:*
- 9: sp_plant:*
- 10: sp_plant:*
- 11: sp_rodent:*
- 12: sp_virus:*
- 13: sp_vertebrate:*
- 14: sp_unclassified:*
- 15: sp_virus:*
- 16: sp_bacteriap:*
- 17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	957	91.4	202	4	O14643 homo sapien
2	908.5	86.8	217	6	Q8WNE0 ateles geof
3	882.5	84.3	217	6	Q866U1 pan troglod
4	873.5	83.4	217	4	O14407 homo sapien
5	866.5	82.8	217	6	Q07369 macaca mula
6	855.5	81.7	217	6	Q866T8 pan troglod
7	853.5	81.5	217	6	Q866U0 pan troglod
8	850.5	81.2	217	6	Q07367 macaca mula
9	831.5	79.4	212	6	Q07368 macaca mula
10	779.5	74.5	199	4	O14406 homo sapien
11	754.5	72.1	217	6	Q8WND9 ateles geof
12	751.5	71.8	217	6	Q8MI74 callithrix
13	728.5	69.6	217	6	Q8MI75 callithrix
14	726.5	69.4	184	6	Q866T9 pan troglod
15	702	67.0	216	6	Q8MI73 delphinus d
16	701	67.0	216	6	Q7YQB8 hippopotamu

17	696	66.5	216	6	Q7YRR6
18	688	65.7	216	11	O70615
19	681	65.0	217	6	Q28957
20	678	64.8	217	6	Q7YQD2
21	677	64.7	217	6	Q864S7
22	673.5	64.3	167	4	P78451
23	673	64.3	216	11	Q9R2C3
24	672	64.2	216	6	Q8HYE5
25	671	64.1	216	11	Q9JMK4
26	670	64.0	217	6	Q9BEB9
27	665	63.5	217	6	Q9BEC0
28	620	59.2	204	6	Q9S205
29	608.5	58.1	245	4	O14644
30	591	56.4	190	11	Q9JKG0
31	590	56.4	192	6	Q9TU21
32	589	56.3	192	6	Q9TOW9
33	554	52.9	216	13	O804M1
34	539	51.5	128	4	Q8NHT7
35	536	51.2	217	13	Q7TIC3
36	526.5	50.3	178	6	Q95MJ6
37	516.5	49.3	178	6	Q95MJ5
38	516	49.3	218	13	Q9PU72
39	466.5	44.6	215	13	Q7ZU47
40	465	44.4	195	13	Q91386
41	449	42.9	128	11	Q8BK24
42	448.5	42.8	145	6	Q9BDR4
43	442.5	42.3	143	6	Q95240
44	415	39.6	120	6	Q9TSG0
45	394.5	37.7	209	13	Q8AXX9

ALIGNMENTS

RESULT 1

O14643 PRELIMINARY; PRT; 202 AA.
AC O14643;
DT 01-JAN-1998 (TREMBLrel. 05, Created)
DT 01-JAN-1998 (TREMBLrel. 05, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Placental growth hormone 20kDa isoform precursor.
GN HGH-V.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Term placenta;
RX MEDLINE=98373737; PubMed=9709963;
RA Boguszewski C.L., Svensson P.A., Jansson T., Clark R.,
RA Carlsson L.M.S., Carlsson B.,
RT "Cloning of two novel growth hormone transcripts expressed in human
RT placenta."
RL J. Clin. Endocrinol. Metab. 83:2878-2885(1998).
DR EMEL; AF006060; AAB71828.1; -.
DR HSSP; P01241; I422.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Signal.
FT SIGNAL. 1 26 POTENTIAL.
SQ SEQUENCE 202 AA; 23128 MW; 38B64D011A9197C6 CRC64;

Query Match 91.4%; Score 957; DB 4; Length 202;

Best Local Similarity 92.6%; Pred. No. 4.6e-83;

Matches 187; Conservative 4; Mismatches 11; Indels 0; Gaps 0;


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RA Strausberg R.;
RL Submitted (JUL-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; J03071; AA52553.1; -.
DR EMBL; BC022044; AAH22044.1; -.
DR EMBL; BC035965; AAH35965.1; -.
DR PIR; E32435; E32435.
DR HSSP; P01241; 1A22.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ SEQUENCE 217 AA; 24994 MW; 39FAACDD6B2E951 CRC64;

Query Match
Best Local Similarity 79.3%; DB 4; Length 217;
Matches 172; Conservative 11; Mismatches 19; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFDNASLRAHRLHQLAFDTYQEF 60
QY 58 -----NPTSLCFSESIPTPSNREETQOKSNLELLRISLLIQSWLEPVQFLR 105
DB 61 YIPKQKYSFLHSDSDYHLLKOLEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 120
QY 106 SVFANSLVYGASDSNVYDLKLEEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 165
DB 121 SMFANLVYDTSDDYHLLKOLEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 SLLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 6
Q866T8
ID Q866T8 PRELIMINARY; PRT; 217 AA.
AC Q866T8;
DT 01-JUN-2003 (TReMBLrel. 24, Created)
DT 01-JUN-2003 (TReMBLrel. 24, Last sequence update)
DT 01-OCT-2003 (TReMBLrel. 25, Last annotation update)
DE Placental lactogen PL-D.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Pan.
OC NCBI_TaxID=9598;
RN [1]
RP SEQUENCE FROM N.A.
RA Revol A., Esquivel D.E., Barrera H.S.;
RT "The GH-PL locus a hot-point between human and chimpanzee genomes.";
RL Submitted (AUG-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; A146628; AAN84508.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ SEQUENCE 217 AA; 25135 MW; 1EB7B98A12B4F4 CRC64;

Query Match
Best Local Similarity 81.7%; Score 855.5; DB 6; Length 217;
Matches 169; Conservative 12; Mismatches 21; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAPGSRSTLLAFGLLCLPWLQEGAIQTVPLSRFDHMLQAHRAHQLAIDTYQEF 60
QY 58 -----NPTSLCFSESIPTPSNREETQOKSNLELLRISLLIQSWLEPVQFLR 105
DB 61 YIPKQKYSFLHSDSDYHLLKOLEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 120
QY 106 SVFANSLVYGASDSNVYDLKLEEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 165
DB 121 SMFANLVYDTSDDYHLLKOLEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 ELLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 7
Q866U0
ID Q866U0 PRELIMINARY; PRT; 217 AA.
AC Q866U0;
DT 01-JUN-2003 (TReMBLrel. 24, Created)
DT 01-JUN-2003 (TReMBLrel. 24, Last sequence update)

Query Match
Best Local Similarity 82.8%; Score 866.5; DB 6; Length 217;
Matches 172; Conservative 11; Mismatches 19; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFDNASLRAHRLHQLAFDTYQEF--- 57
DB 1 MAAGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFDNASLRAHRLHQLAFDTYQEF 60
QY 58 -----NPTSLCFSESIPTPSNREETQOKSNLELLRISLLIQSWLEPVQFLR 105
DB 61 YIPKQKYSFLHSDSDYHLLKOLEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 120
QY 106 SVFANSLVYGASDSNVYDLKLEEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 165
DB 121 SMFANLVYDTSDDYHLLKOLEGIQTLMRLEDGSPRTGQIFKQYKSKFTDTHSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
DB 181 ELLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 5
Q07369
ID Q07369 PRELIMINARY; PRT; 217 AA.
AC Q07369;
DT 01-NOV-1996 (TReMBLrel. 01, Created)
DT 01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TReMBLrel. 24, Last annotation update)
DE Chorionic somatomammotropin-3.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
OC Cercopitheidae; Macaca.
OC NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RA Tissue=Midpregnancy placenta;
RX MEDLINE=94008724; PubMed=8404617;
RA Golos T.G., Durning M., Fisher J.M., Fowler P.D.;
RT "Cloning of four growth hormone/chorionic somatomammotropin-related complementary deoxyribonucleic acids differentially expressed during pregnancy in the rhesus monkey placenta.";
RL Endocrinology 133:1744-1752 (1993).
DR EMBL; L16554; AAA18841.1; -.
DR PIR; I67409; I67409.
DR HSSP; P01241; 1AXI.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ SEQUENCE 217 AA; 24874 MW; F1EB6AFDBBA1B185 CRC64;

Query Match
Best Local Similarity 77.4%; DB 4; Length 217;
Matches 172; Conservative 11; Mismatches 19; Indels 15; Gaps 1;
```

DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Placental lactogen PL-B.
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Pan.
OX NCBI_TaxID=9598;
RN [1]
RP SEQUENCE FROM N.A.
RA Revol A., Equivel D.E., Barrera H.S.;
RT "The GH-PL locus a hot-point between human and chimpanzee genomes.";
RL Submitted (Aug-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL: AY146626; AAN84506.1; -
DR GO: 0005576; C:extracellular; IEA.
DR GO: 0005179; F:hormone activity; IEA.
DR InterPro: IPR001400; Somatotropin.
DR Pfam: PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ SEQUENCE 217 AA; 24884 MW; A1663257499827D4 CRC64;
Query Match 81.5%; Score 853.5; DB 6; Length 217;
Best Local Similarity 77.9%; Pred. No. 3.7e-73;
Matches 169; Conservative 11; Mismatches 22; Indels 15; Gaps 1;
QY 1 MATGSRSTLLAFGLCLPWLQEGSAFPTPLSRFDNASLRAHRLHQLAFDITYQEF--- 57
DB 1 MAAGSRSTLLAFGLCLPWLQEGAVQTVPLSRFKEAMLQAPAHQLAIDITYQEFEEA 60
QY 58 -----NPQSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPQVFLR 105
DB 61 YIPKQKYVFLHDSQTSFCSDSIPTPSNMEETQOKSNLELLRISLLLIQSWLEPQVFLR 120
QY 106 SVFANSIVYGASDNVYDLKDLREGIQTLMGRLEDGSPRTGQIFKQYTSKFDNSHND 165
DB 61 YIPKQKYVFLHDSQTSFCSDSIPTPSNMEETQOKSNLELLRISLLLIQSWLEPQVFLR 120
QY 121 SMFANNLVYDTSDDYHLLKDLREGIQTLMGRLEDGSRRTGQILKQYTSKFDNSHND 180
QY 166 ALLKNYGLLYCFRDKMDKVETPLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRDKMDKVETPLRIVQCRSVEGSCGF 217
QY 181 ALLKNYGLLYCFRDKMDKVETPLRIVQCRSVEGSCGF 217
RESULT 8
Q07367
ID Q07367 PRELIMINARY; PRT; 217 AA.
AC Q07367;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Chorionic somatomotropin-1.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
OC Cercopitheciinae; Macaca.
OX NCBI_TaxID=9544;
EN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Placenta;
RX MEDLINE=94008724; PubMed=8404617;
RA Golos T.G., Durning M., Fisher J.M., Fowler P.D.;
RT "Cloning of four growth hormone/chorionic somatomotropin-related
RT complementary deoxyribonucleic acids differentially expressed during
RT pregnancy in the rhesus monkey placenta.";
RL Endocrinology 133:1744-1752(1993).
DR EMBL: L16552; AAA18839.1; -
DR HSSP; P01241; IAXI.
DR GO: 0005576; C:extracellular; IEA.
DR GO: 0005179; F:hormone activity; IEA.
DR InterPro: IPR001400; Somatotropin.
DR Pfam: PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
FT NON TER 1
SQ SEQUENCE 217 AA; 24525 MW; 27BC91106256E6F5 CRC64;
Query Match 79.4%; Score 831.5; DB 6; Length 212;
Best Local Similarity 75.5%; Pred. No. 4.4e-71;
Matches 160; Conservative 18; Mismatches 19; Indels 15; Gaps 1;
QY 6 RTSLLAFGLCLPWLQEGSAFPTPLSRFDNASLRAHRLHQLAFDITYQEF----- 57
DB 1 RTSLLAFGLCLPWLQEGAVQTVPLSRFKEAMLQAPAHQLAIDITYQEFEEA 60
QY 58 -----NPQSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPQVFLR 110
DB 61 KXSLMENPQASFCFADSIPTPSNLEETQOKSNLELLRISLLLIQSWLEPQVFLR 120
QY 111 SLVYGASDNVYDLKDLREGIQTLMGRLEDGSPRTGQIFKQYTSKFDNSHNDALKN 170
DB 121 NLLHHTSDSDVHLLKDLREGIQTLMGRLEDGIPRTGHIKQYTSKFDNSHNDALKN 180

SQ SEQUENCE 217 AA; 24942 MW; FF5AA8915131F2BC CRC64;
Query Match 81.2%; Score 850.5; DB 6; Length 217;
Best Local Similarity 75.6%; Pred. No. 7.1e-73;
Matches 164; Conservative 18; Mismatches 20; Indels 15; Gaps 1;
QY 1 MATGSRSTLLAFGLCLPWLQEGSAFPTPLSRFDNASLRAHRLHQLAFDITYQEF--- 57
DB 1 MAAGSRSTLLAFGLCLPWLQEGAVQTVPLSRFKEAMLQAPAHQLAIDITYQEFEEA 60
QY 58 -----NPQSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPQVFLR 105
DB 61 YIPKQKYVFLHDSQTSFCSDSIPTPSNMEETQOKSNLELLRISLLLIQSWLEPQVFLR 120
QY 106 SVFANSIVYGASDNVYDLKDLREGIQTLMGRLEDGSPRTGQIFKQYTSKFDNSHND 165
DB 121 SMFANNLVYDTSDDYHLLKDLREGIQTLMGRLEDGIPRTGHIKQYTSKFDNSHND 180
QY 166 ALLKNYGLLYCFRDKMDKVETPLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRDKMDKVETPLRIVQCRSVEGSCGF 217
RESULT 9
Q07368
ID Q07368 PRELIMINARY; PRT; 212 AA.
AC Q07368;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Somatotropin 2 precursor (Growth hormone 2) (Fragment).
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
OC Cercopitheciinae; Macaca.
OX NCBI_TaxID=9544;
EN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Placenta;
RX MEDLINE=94008724; PubMed=8404617;
RA Golos T.G., Durning M., Fisher J.M., Fowler P.D.;
RT "Cloning of four growth hormone/chorionic somatomotropin-related
RT complementary deoxyribonucleic acids differentially expressed during
RT pregnancy in the rhesus monkey placenta.";
RL Endocrinology 133:1744-1752(1993).
DR EMBL: L16553; AAA18840.1; -
DR HSSP; P01241; IAXI.
DR GO: 0005576; C:extracellular; IEA.
DR GO: 0005179; F:hormone activity; IEA.
DR InterPro: IPR001400; Somatotropin.
DR Pfam: PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
FT NON TER 1
SQ SEQUENCE 212 AA; 24525 MW; 27BC91106256E6F5 CRC64;
Query Match 79.4%; Score 831.5; DB 6; Length 212;
Best Local Similarity 75.5%; Pred. No. 4.4e-71;
Matches 160; Conservative 18; Mismatches 19; Indels 15; Gaps 1;
QY 6 RTSLLAFGLCLPWLQEGSAFPTPLSRFDNASLRAHRLHQLAFDITYQEF----- 57
DB 1 RTSLLAFGLCLPWLQEGAVQTVPLSRFKEAMLQAPAHQLAIDITYQEFEEA 60
QY 58 -----NPQSLCFSESIPTPSNREETQOKSNLELLRISLLLIQSWLEPQVFLR 110
DB 61 KXSLMENPQASFCFADSIPTPSNLEETQOKSNLELLRISLLLIQSWLEPQVFLR 120
QY 111 SLVYGASDNVYDLKDLREGIQTLMGRLEDGSPRTGQIFKQYTSKFDNSHNDALKN 170
DB 121 NLLHHTSDSDVHLLKDLREGIQTLMGRLEDGIPRTGHIKQYTSKFDNSHNDALKN 180


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QY 171 YGLLYCFKMDKVKVETFLRVQCRSVGSGCF 202
Db 181 YGLLHCFKMDKVKVETFLRVQCRSVGSGCF 212

RESULT 10
Q14406
ID Q14406 PRELIMINARY; PRT; 199 AA.
AC Q14406;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Chorionic somatomammotropin CS-5.
OS Homo sapiens (Human).
OC Mammalia; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gelinas R.E.,
RA Seeburg P.H.;
RT "The human growth hormone locus: nucleotide sequence, biology, and
RT evolution."
RL Genomics 4:479-497 (1989).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=91102558; PubMed=1980158;
RA Vnencak-Jones C.L., Phillips J.A. III.;
RT "Hot spots for growth hormone gene deletions in homologous regions
RT outside of Alu repeats."
RL Science 250:1745-1748 (1990).
DR EMBL; J03071; AAA52550.1; -.
DR PIR; B32435; B32435.
DR HSSP; P01241; 1A22.
DR Genew; HGNC:2442; CSHL1.
DR GO; GO:0005179; F:hormone activity; NAS.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ SEQUENCE 199 AA; 22649 MW; 119656E87AFD55C3 CRC64;

Query Match 74.5%; Score 779.5; DB 4; Length 199;
Best Local Similarity 77.7%; Pred. No. 3.7e-66;
Matches 157; Conservative 10; Mismatches 32; Indels 3; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLDNASLRAHLHQLAFDTYQEFNPQ 60
Db 1 MAAGSRSTLLAFGLLCLPWLQEGAVQTVPLSRFLFKAMQLQAHRAHQLAIDTYQEFISS 60

QY 61 TSLCFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVQFLRSVFANSVLYGASDSN 120
Db 61 WGM---DSIPTSSNMEETOQKSNLELLRISLLIESRLEPVRFLRSTFTNNLVYDTSDD 117

QY 121 VYDLKDLKEEGTQTLMLGRLEDGSPQTQIFKQTYSKFDTNSHNDALLKNVGLLYCFRKD 180
Db 118 DYHLKDLKEEGTQMLMGRLEDGSHLTGTLQKQTYSKFDTNSHNDALLKNVGLLYCFRKD 177

QY 181 MDKVETFLRVQCRSVGSGCF 202
Db 178 MDKVETFLRVQCRSVGSGCF 199

RESULT 11
Q8WND9
ID Q8WND9 PRELIMINARY; PRT; 217 AA.
AC Q8WND9;
DT 01-MAR-2002 (TREMBlrel. 20, Created)
DT 01-MAR-2002 (TREMBlrel. 20, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Growth hormone.
GN GH-V.

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OS Ateles geoffroyi (Black-handed spider monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Platyrrhini; Cebidae; Ateleinae; Ateles.
OX NCBI_TaxID=9509;
RN [1]
RP SEQUENCE FROM N.A.
RA Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RT "Independent duplication of the growth hormone gene in three
RT Anthropoid lineages."
RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF374235; AAL72287.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ SEQUENCE 217 AA; 25293 MW; 741745A1B75C053E CRC64;

Query Match 72.1%; Score 754.5; DB 6; Length 217;
Best Local Similarity 69.1%; Pred. No. 9.8e-64;
Matches 150; Conservative 18; Mismatches 34; Indels 15; Gaps 1;

QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLDNASLRAHLHQLAFDTYQEF--- 57
Db 1 MAAGSRMSLLLTALLCLPWLQETGAFPRIPLSRLFGDAMLRHQHQAFTYQELEEN 60

QY 58 -----NPOTSICFSESIPTPSNREETOQKSNLELLRISLLIQSWLEPVQFLR 105
Db 61 CIPKQKQYFFLRNPNKFLCFSESIPTPNKEVLAQSLLELHLSLLIQSWLEPVQPLG 120

QY 106 SVFANSVLYGASDSNVYDLKDLKEEGTQTLMLGRLEDGSPQTQIFKQTYSKFDTNSHND 165
Db 121 GVFNASQRHNISNTDVEYVLDLKEEGIQLTWLEDGSPQTQIEIFQTYKFKDRSHND 180

QY 166 ALLKNVGLLYCFRKMDKVETFLRVQCRSVGSGCF 202
Db 181 ALLKNVGLLYCFRKMDKVETFLRVQCRSLQDSGCF 217

RESULT 12
Q8MI74
ID Q8MI74 PRELIMINARY; PRT; 217 AA.
AC Q8MI74;
DT 01-OCT-2002 (TREMBlrel. 22, Created)
DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)
DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)
DE Growth hormone-like protein 6 precursor.
GN GHLP6.
OS Callithrix jacchus (Common marmoset).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callithrix.
OX NCBI_TaxID=9483;
RN [1]
RP SEQUENCE FROM N.A.
RA Wallis O.C., Wallis M.;
RT "Characterisation of the GH gene cluster in a new-world monkey, the
RT marmoset (Callithrix jacchus).";
RL J. Mol. Endocrinol. 0:0-0 (2002).
DR EMBL; AJ489811; CAD34012.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Signal.
FT SIGNAL.
FT CHAIN 1 26 POTENTIAL.
FT CHAIN 27 217 GROWTH HORMONE-LIKE PROTEIN 6.
SQ SEQUENCE 217 AA; 25177 MW; 5ECF148798278F1A CRC64;

Query Match 71.8%; Score 751.5; DB 6; Length 217;

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Best Local Similarity 67.7%; Pred. No. 1.9e-63;
Matches 147; Conservative 23; Mismatches 32; Indels 15; Gaps 1;

Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLFNASIRAHRLHQLAFDTYQEP--- 57
Db 1 MAAGSRSLMLAFALLCLPWLQETGALPIPLSRFLFGDAMLRARQLHHLALETYREFEKN 60
Qy 58 -----NPQTSICFSESPTPSNREETOQKSNLELRISLLLIQSWLEPVOFLR 105
Db 61 CVPKEQKYFRLNPETVCFSESPTPFHKEMLGRKNVELLHLSLLLIQSWLEPQORLG 120
Qy 106 SVFANSILVYGASDSNVYDLKDLBEGIQTLGRLEDGSPRTGQIFKQYTSKFDNNSHND 165
Db 121 SIFANSQLHSIVNTDVEYLKDLBEGIQTLGRLEDGSPQGEIFRQYTSKFDNNSHND 180
Qy 166 ALLKNYGLLYCFRKMDKVFTRIVQCRSVEGSCGF 202
Db 181 TLKNYWLLECFRKDMKVKVTFRLIVQCHSVEGSCGF 217

RESULT 13
Q8MI75 PRELIMINARY; PRT; 217 AA.
AC Q8MI75;
DT 01-OCT-2002 (TrEMBLrel. 22, Created)
DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DE Placental lactogen PL-C (Fragment).
OS Pan troglodytes (Chimpanzee).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.
NCBI_TaxID=9598;
RN [1]
RP SEQUENCE FROM N.A.
RA Revol A., Esquivel D.E., Barrera H.S.;
RT "The GH-PL locus a hot-point between human and chimpanzee genomes.";
RL Submitted (AUG-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY146627; AAN84507.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
FT NON TER 184 184
SQ SEQUENCE 184 AA; 21145 MW; 68D1FF4AE59178DD CRC64;

Query Match 69.4%; Score 726.5; DB 6; Length 184;
Best Local Similarity 79.3%; Pred. No. 3.7e-61;
Matches 146; Conservative 9; Mismatches 14; Indels 15; Gaps 1;

Qy 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLFNASIRAHRLHQLAFDTYQEP--- 57
Db 1 MAPGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLFDHMLQAHRAHQLAIDTYQEPEEA 60
Qy 58 -----NPQTSICFSESPTPSNREETOQKSNLELRISLLLIQSWLEPVOFLR 105
Db 61 YIPKQKYQFSLHDSQTSFCFSDSLTPSNMEETQCKSNLELRISLLLIQSWLEPVRFLR 120
Qy 106 SVFANSILVYGASDSNVYDLKDLBEGIQTLGRLEDGSPRTGQIFKQYTSKFDNNSHND 165
Db 121 SFANNLVYDTSDDYHLKDLBEGIQTLGRLEDGSRRTGQILKQYTSKFDNNSHND 180
Qy 166 ALLK 169
Db 181 ALLK 184

RESULT 15
Q8MI73 PRELIMINARY; PRT; 216 AA.
AC Q8MI73;
DT 01-OCT-2002 (TrEMBLrel. 22, Created)
DT 01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
DE Growth hormone precursor.
OS Delphinus delphis (Saddleback dolphin) (Black sea dolphin).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Cetacea; Odontoceti; Delphinidae;
OC Delphinus.
NCBI_TaxID=9728;
RN [1]
RP SEQUENCE FROM N.A.
RA Manion Z., Wallis O.C., Wallis M.;
RT "Cloning and characterisation of the GH gene from the common dolphin
RL (Delphinus delphis).";
RL Submitted (JUN-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AJ492191; CAD37292.1; -.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR InterPro; IPR001400; Somatotropin.
DR Pfam; PF00103; hormone; 1.

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RESULT 14

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DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Signal.
FT SIGNAL.
FT CHAIN 1 26 POTENTIAL.
FT CHAIN 27 216 GROWTH HORMONE.
SQ SEQUENCE 216 AA; 24509 MW; 1EC467A84CCFEB02 CRC64;

Query Match 67.0%; Score 702; DB 6; Length 216;
Best Local Similarity 64.5%; Pred. No.9.8e-59;
Matches 140; Conservative 20; Mismatches 41; Indels 16; Gaps 3;

Qy 1 MATGSRSLIIAFGLICLPNIQEGSAPPTPLSLKFDNASLRHRLHQLAFDTYQEF--- 57
Db 1 MAAGERTSMIIAFALLCLPWTQEVGAPFAMPPLSSLFANAVLRAQLHQLAADTYKEPERA 60

Qy 58 -----NPQTSLCFESIEPTPSNRRETQOKSNLELIRISLLIIQSLWLEPVQFLRS 106
Db 61 YIPGQRYSTQNTQAACFSSETIIPAPTKGDAQQRSDVELLRFSLLIIQSLWGVQFLSR 120

Qy 107 VFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTGQIFKQYKSYKFDTNSHNDDA 166
Db 121 VFTNSLVFGTSD-RVYEKLDKDLREGIQALMRELEDGSPRAGQILKQYDKFDTNWRSDDA 179

Qy 167 LKKNYGLLYCFRKMDKVFTEFLRIVQCRS-VEGSGCF 202
Db 180 LKKNYGLLSGCFKDLHKAETFLRVWKKCRRFVESSCAF 216

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Search completed: July 12, 2004, 13:05:22
Job time : 46 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 12, 2004, 12:57:07 ; Search time 61 Seconds
(without alignments)
935.649 Million cell updates/sec

Title: US-09-856-796b-2

Perfect score: 1047

Sequence: 1 MATGSRNTSLLLAFGLLCLPW.....KVETFLRIVQCRSVGSGCF 202

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A_Geneseq_29Jan04.*

- 1: Geneseqp1980s.*
- 2: Geneseqp1990s.*
- 3: Geneseqp2000s.*
- 4: Geneseqp2001s.*
- 5: Geneseqp2002s.*
- 6: Geneseqp2003as.*
- 7: Geneseqp2003bs.*
- 8: Geneseqp2004s.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	DB	ID	Description
1	1047	100.0	202	3	AAY93637	Aay93637 Amino aci
2	1029.5	98.3	217	2	AAR60516	Aar60516 Human som
3	1029.5	98.3	217	5	AAU11731	AAU11731 Growth ho
4	1029.5	98.3	217	5	AAU11719	AAU11719 Growth ho
5	1029.5	98.3	217	5	AAU11720	AAU11720 Growth ho
6	1029.5	98.3	217	5	AAU11730	AAU11730 Growth ho
7	1029.5	98.3	217	5	ABG60633	Abg60633 Human gro
8	1028.5	98.2	217	5	AAU11742	AAU11742 Growth ho
9	1028.5	98.2	217	5	AAU11726	AAU11726 Growth ho
10	1026.5	98.0	217	5	AAU11746	AAU11746 Growth ho
11	1025.5	97.9	217	5	AAU11747	AAU11747 Growth ho
12	1025.5	97.9	217	5	AAU11735	AAU11735 Growth ho
13	1025.5	97.9	217	5	AAU11744	AAU11744 Growth ho
14	1025.5	97.9	217	5	AAU11722	AAU11722 Growth ho
15	1025.5	97.9	217	5	AAU11728	AAU11728 Growth ho
16	1024.5	97.9	217	2	AAR05169	Aar05169 Human gro
17	1024.5	97.9	217	3	AAB26769	Aab26769 Secretary
18	1024.5	97.9	217	4	AAO17479	Aao17479 Human gro
19	1024.5	97.9	217	4	AAB35428	Aab35428 Secretary
20	1024.5	97.9	217	5	AAU11741	AAU11741 Growth ho
21	1024.5	97.9	217	5	AAU11727	AAU11727 Growth ho
22	1024.5	97.9	217	5	AAU11748	AAU11748 Growth ho
23	1024.5	97.9	217	5	AAU11736	AAU11736 Growth ho
24	1024.5	97.9	217	5	AAU11750	AAU11750 Growth ho
25	1024.5	97.9	217	5	AAU11743	AAU11743 Growth ho

ALIGNMENTS

RESULT 1

AAAY93637

ID AAY93637 standard; protein; 202 AA.

XX AAY93637;

AC AAY93637;

XX 25-SEP-2000 (first entry)

XX Amino acid sequence of a human growth hormone (hGH).

XX Human; growth hormone; hGH; inhibitor; nuclear factor-kappaB; NF-kappaB;
XX multi-drug resistance gene; malignant hemopathy; solid tumour;
XX malignant blood disease; leukaemia; lymphoma; solid cancer.

XX Homo sapiens.

XX WO2000030587-A2.

XX 02-JUN-2000.

XX 24-NOV-1999; 99WO-FR002897.

XX 25-NOV-1998; 98FR-00014858.

XX (CNRS) CENT NAT RECH SCI.

XX Hirsch F, Haeffner A;

XX WPI, 2000-399901/34.

XX N-PSDB; AAA46696.

XX Treatment of hematological or solid tumors using an inhibitor of the
XX activation of nuclear factor-kappaB, particularly to prevent development
XX of resistance to chemotherapeutics.

XX Claim 10; Page 27-28; 30pp; French.

XX The present sequence represents a human growth hormone (hGH). The human
XX growth hormone protein is used as an inhibitor of the activation of
XX nuclear factor-kappaB (NF-kappaB). The inhibitor inhibits activation of
XX NF-kappaB, and thus transcription of the multi-drug resistance gene
XX (which contains binding sites for NF-kappaB within its regulatory
XX regions). The inhibitors are used to produce pharmaceuticals which may be
XX used in the treatment of malignant hemopathy or solid tumours. The
XX inhibitors are especially used to treat malignant blood diseases
XX (leukaemia, lymphoma) and solid cancers (of breast or ovary)

XX Sequence 202 AA;

Query Match	100.0%;	Score 1047;	DB 3;	Length 202;	
Best Local Similarity	100.0%;	Pred. No. 2e-89;	0;	Gaps 0;	
Matches 202;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;	
QY	1	MATGSR	TSLLAFGLLCLPWLQEGSAPPTPLSR	LDNASLAHRLHQLAFTDYQEFNPQ 60	
Db	1	MATGSR	TSLLAFGLLCLPWLQEGSAPPTPLSR	LDNASLAHRLHQLAFTDYQEFNPQ 60	
QY	61	TSLCFSES	IPPSNRETTQOKSNLELIRISLLIQSWLEPQFLRSVFANSIVYGASDSN 120		
Db	61	TSLCFSES	IPPSNRETTQOKSNLELIRISLLIQSWLEPQFLRSVFANSIVYGASDSN 120		
QY	121	VYDLLKDL	EEGIQTLMGRLDGS	PRTGOIFKQTVSKFDYNSHND	DALLKNYGLLYCFRKD 180
Db	121	VYDLLKDL	EEGIQTLMGRLDGS	PRTGOIFKQTVSKFDYNSHND	DALLKNYGLLYCFRKD 180
QY	181	MDKVETFLRI	VQCRSVEGSGCF 202		
Db	181	MDKVETFLRI	VQCRSVEGSGCF 202		
RESULT 2					
AAR60516					
ID	AAR60516	standard; protein; 217 AA.			
XX	AC	AAR60516;			
XX	XX				
DT	25-MAR-2003	(revised)			
DT	22-MAR-1995	(first entry)			
XX	XX	Human somatotropin.			
XX	XX	Serine protease; Factor-Xa; recognition site; fusion protein cleavage;			
KW	protein folding; growth hormone; somatotropin; primer;				
KW	polymerase chain reaction; amplification.				
XX	XX				
OS	Homo sapiens.				
XX	XX				
PN	WC9418227-A2.				
PD	18-AUG-1994.				
XX	XX				
PF	04-FEB-1994;	94WO-DK000054.			
XX	XX				
PR	04-FEB-1993;	93DK-00000130.			
PR	05-FEB-1993;	93DK-00000139.			
PR	03-DEC-1993;	93WO-GB002492.			
XX	XX	(DENZ-) DENZYME AFS.			
PA					
XX	XX	Thogersen HC, Holtet TL, Etzerodt M;			
PI	WPI; 1994-279681/34.				
XX	XX				
DR	XX				
ET	XX				
PT	XX				
XX	XX				
PS	XX				
XX	XX				
CC	CC	cDNA encoding human somatotropin (aa sequence given in AAR60516) was PCR			
CC	CC	amplified using primers given in AAQ71248-49. Amplified cDNA was linked			
CC	CC	to a sequence encoding the factor-Xa cleavage site (given in AAR60503),			
CC	CC	hexahistidine-encoding sequence and expressed in E. coli BL21. The			
CC	CC	resulting fusion protein included an affinity tag (AAR60513) that			
CC	CC	facilitated purification on Ni2+-activated NTA-agarose. A cyclic			
CC	CC	procedure was used to obtain correctly folded recombinant protein.			
CC	CC	(Updated on 25-MAR-2003 to correct PN field.)			
XX	XX				
SQ	XX	Sequence 217 AA;			

therapeutic, diagnostic or detection method, particularly for determining binding defects and susceptibility to a disease such as diabetes, obesity or infection; for treating acromegaly or gigantism conditions associated with lactogenic, diabetogenic, lipolytic and protein anabolic effects, conditions associated with sodium and water retention, metabolic syndromes, mood and sleep disorders; diagnosing GH dysfunction and determining pituitary storage defects. The GH1 variants are especially useful in gene therapy or protein therapy. The GH1 or GH variant may also be used in the preparation of a medicament, diagnostics composition or kit, or detection kit. The method has the advantage of: expanding the know spectrum of GH1 gene mutations; evaluating the role of GH1 gene mutations in the etiology of short stature; identifying of the mode of inheritance of novel lesions; evaluation the effects of GH1 mutations on the structure and function of the GH molecule and development of rapid diagnostic tests for inherited GH deficiency. This sequence is a variant of human growth hormone 1 (GH1), one of many variations of the gene discussed in the method of the invention. Note: This sequence does not appear in the specification but has been created from the GH1 wild type sequence (AAU11719) given in figure 6

XX SQ Sequence 217 AA;

Query Match 98.3%; Score 1029.5; DB 5; Length 217;
Best Local Similarity 93.1%; Pred. No. 9.6e-88;
Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;

QY 1 MATGRTSLLLAFGLLCPLWQEGSAFTPIPLSRFDNASLRAHRLHQLAFDTYQEF 57
DB 1 MATGRTSLLLAFGLLCPLWQEGSAFTPIPLSRFDNASLRAHRLHQLAFDTYQEF 60

QY 58 -----NPQTSLCFSESIPPSNREETQOKSNLELLRLISLLLIQSWLEPVQFLR 105
DB 61 YIPKEQKYLFLQNPQTSLCFSESIPPSNREETQOKSNLELLRLISLLLIQSWLEPVQFLR 120

QY 106 SVFANSLVYGASDSNVYDLLKLEEGITLMGRLEDGSPRTGQIFKQTSKFTDTHSHND 165
DB 121 SVFANSLVYGASDSNVYDLLKLEEGITLMGRLEDGSPRTGQIFKQTSKFTDTHSHND 180

QY 166 ALLKNYGLLYCFRKDMKVETFLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRKDMKVETFLRIVQCRSVEGSCGF 217

RESULT 4
AAU11719
ID AAU11719 standard; protein; 217 AA.
AC AAU11719;
XX
DT 12-MAR-2002 (first entry)
XX
DE Growth hormone 1 gene (GH1), major isoform.
XX
KW Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
KW water retention; metabolic syndrome; mood disorder; sleep disorder;
KW Growth hormone dysfunction; familial growth hormone deficiency;
KW short stature; pituitary storage defect; human; chromosome 17q23.
XX
OS Homo sapiens.
XX
FN WO200185993-A2.
XX
PD 15-NOV-2001.
XX
PF 14-MAY-2001; 2001WO-GB002126.
XX
PR 12-MAY-2000; 2000GB-00011459.
PR 14-JUL-2000; 2000EP-00306004.
XX
PA (UYWA-) UNIV WALS COLLEGE OF MEDICINE.
XX
PI Cooper DN, Procter AM, Gregory J, Millar DS;

XX DR WPI; 2002-089798/12.
DR N-PSDB; AAS18887.
XX
PT Detecting growth hormone variants (GH1), useful in screening patients for growth hormone irregularities, comprises comparing the nucleotide sequence of a GH1 gene from a test sample with that of a standard sequence of the human GH1.
PT
XX
PS Disclosure; Fig 6; 95pp; English.
XX
CC The invention described a method of detecting variation in growth hormone 1 (GH1), and therefore GH dysfunction in an individual. The method comprises comparing the nucleotide sequence of GH1 gene obtained from the test sample with a standard human GH1 gene sequence, in order to identify variation (GH1 variant). The method is useful in screening patients for growth hormone irregularities or producing variant proteins for treating irregularities, and for the early detection and appropriate clinical management of familial GH deficiency. The GH1 variants are useful in therapeutic, diagnostic or detection method, particularly for determining binding defects and susceptibility to a disease such as diabetes, obesity or infection; for treating acromegaly or gigantism conditions associated with lactogenic, diabetogenic, lipolytic and protein anabolic effects, conditions associated with sodium and water retention, metabolic syndromes, mood and sleep disorders; diagnosing GH dysfunction and determining pituitary storage defects. The GH1 variants are especially useful in gene therapy or protein therapy. The GH1 or GH variant may also be used in the preparation of a medicament, diagnostics composition or kit, or detection kit. The method has the advantage of: expanding the know spectrum of GH1 gene mutations; evaluating the role of GH1 gene mutations in the etiology of short stature; identifying of the mode of inheritance of novel lesions; evaluation the effects of GH1 mutations on the structure and function of the GH molecule and development of rapid diagnostic tests for inherited GH deficiency. This is the amino acid sequence of the major isoform of human growth hormone 1 (GH1), located on chromosome 17q23), used as a reference sequence for creating the mutants (AAU11721-AAU11750 and AAU11901) described in the method of the invention

XX SQ Sequence 217 AA;

Query Match 98.3%; Score 1029.5; DB 5; Length 217;
Best Local Similarity 93.1%; Pred. No. 9.6e-88;
Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;

QY 1 MATGRTSLLLAFGLLCPLWQEGSAFTPIPLSRFDNASLRAHRLHQLAFDTYQEF 57
DB 1 MATGRTSLLLAFGLLCPLWQEGSAFTPIPLSRFDNASLRAHRLHQLAFDTYQEF 60

QY 58 -----NPQTSLCFSESIPPSNREETQOKSNLELLRLISLLLIQSWLEPVQFLR 105
DB 61 YIPKEQKYLFLQNPQTSLCFSESIPPSNREETQOKSNLELLRLISLLLIQSWLEPVQFLR 120

QY 106 SVFANSLVYGASDSNVYDLLKLEEGITLMGRLEDGSPRTGQIFKQTSKFTDTHSHND 165
DB 121 SVFANSLVYGASDSNVYDLLKLEEGITLMGRLEDGSPRTGQIFKQTSKFTDTHSHND 180

QY 166 ALLKNYGLLYCFRKDMKVETFLRIVQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFRKDMKVETFLRIVQCRSVEGSCGF 217

RESULT 5
AAU11720
ID AAU11720 standard; protein; 217 AA.
XX
AC AAU11720;
XX
DT 12-MAR-2002 (first entry)
XX
DE Growth hormone 1 gene (GH1), E56G mutant.
XX
KW Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;

KW	water retention; metabolic syndrome; mood disorder; sleep disorder;
KW	Growth hormone dysfunction; familial growth hormone deficiency;
KW	short stature; pituitary storage defect; human; mutant; mutein.
XX	
OS	Homo sapiens.
OS	Synthetic.
XX	
FH	Key Location/Qualifiers
FT	Misc-difference 56
FT	/note= "Wild type Glu substituted by Gly"
WO	200185993-A2.
PX	
PD	15-NOV-2001.
XX	
PR	14-MAY-2001; 2001WO-GB002126.
PR	
PR	12-MAY-2000; 2000GB-00011459.
PR	14-JUL-2000; 2000EP-00306004.
PA	(UYWA-) UNIV WALES COLLEGE OF MEDICINE.
XX	
XX	Cooper DN, Procter AM, Gregory J, Millar DS;
DR	WPI; 2002-089798/12.
DR	N-PSDB; AAS18888.
XX	
PT	Detecting growth hormone variants (GHI), useful in screening patients for
PT	growth hormone irregularities, comprises comparing the nucleotide
PT	sequence of a GHI gene from a test sample with that of a standard
PT	sequence of the human GHI.
XX	
PS	Claim 20; Fig 7; 95pp; English.
CC	The invention described a method of detecting variation in growth hormone
CC	1 (GHI), and therefore GH dysfunction in an individual. The method
CC	comprises comparing the nucleotide sequence of GHI gene obtained from the
CC	test sample with a standard human GHI gene sequence, in order to identify
CC	variation (GHI variant). The method is useful in screening patients for
CC	growth hormone irregularities or producing variant proteins for treating
CC	irregularities, and for the early detection and appropriate clinical
CC	management of familial GH deficiency. The GHI variants are useful in
CC	therapeutic, diagnostic or detection method, particularly for determining
CC	binding defects and susceptibility to a disease such as diabetes, obesity
CC	or infection; for treating acromegaly or gigantism conditions associated
CC	with lactogenic, diabetogenic, lipolytic and water retention, metabolic
CC	conditions associated with sodium and protein anabolic effects,
CC	syndromes, mood and sleep disorders; diagnosing GH dysfunction and
CC	determining pituitary storage defects. The GHI variants are especially
CC	useful in gene therapy or protein therapy. The GHI or GH variant may also
CC	be used in the preparation of a medicament, diagnostics composition or
CC	kit, or detection kit. The method has the advantage of: expanding the
CC	know spectrum of GHI gene mutations; evaluating the role of GHI gene
CC	mutations in the etiology of short stature; identifying of the mode of
CC	inheritance of novel lesions; evaluation the effects of GHI mutations on
CC	the structure and function of the GH molecule and development of rapid
CC	diagnostic tests for inherited GH deficiency. This sequence is a variant
CC	of human growth hormone 1 (GHI1), created from the GHI wild type sequence
CC	(AAU11719) given in figure 6 and one of many variations of the gene
CC	discussed in the method of the invention
XX	
SQ	Sequence 217 AA;
	Query Match 98.3%; Score 1029.5; DB 5; Length 217;
	Best Local Similarity 93.1%; Pred.No. 9.6e-88;
	Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1
OY	1 MATGSRTSLLLAAGLCLPLMWQSGAPPTIPISRLFDNASLRARHLQLAFTYQEF---57
DB	1 MATGSRTSLLLAAGLCLPLMWQSGAPPTIPISRLFDNASLRARHLQLAFTYQEFGEA 60
	-----NPTSICFSESIIPTSPSREETQQKSNLELRISILLITQSMLPEVPQFLR 101
OY	58 -----

CC kit, or detection kit. The method has the advantage of: expanding the
 CC know spectrum of GH1 gene mutations; evaluating the role of GH1 gene
 CC mutations in the etiology of short stature; identifying of the mode of
 CC inheritance of novel lesions; evaluation the effects of GH1 mutations on
 CC the structure and function of the GH molecule and development of rapid
 CC diagnostic tests for inherited GH deficiency. This sequence is a variant
 CC of human growth hormone 1 (GH1), one of many variations of the gene
 CC discussed in the method of the invention. Note: This sequence does not
 CC appear in the specification but has been created from the GH1 wild type
 CC sequence (AAU11719) given in figure 6
 XX
 SQ Sequence 217 AA;

Query Match 98.3%; Score 1029.5; DB 5; Length 217;
 Best Local Similarity 93.1%; Pred. No. 9.6e-88;
 Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;
 QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTPLSLRFDNASLRARHLHQLAFDTYQEF--- 57
 Db 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTPLSLRFDNASLRARHLHQLAFDTYQEFEEA 60
 QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLIQSWLEPVQFLR 105
 Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISLLIQSWLEPVQFLR 120
 QY 106 SVFANSLVYGASDSNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHND 165
 Db 121 SVFANSLVYGASDSNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHND 180
 QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
 Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 7
 ABG60633
 ID ABG60633 standard; protein; 217 AA.
 XX
 AC ABG60633;
 DT 13-AUG-2002 (first entry)
 XX
 DE Human growth hormone (hGH).
 DE Transcellular transport; transcytotic transport; paracellular transport;
 KW respiratory system disorder; lung cancer; tumour; asthma;
 KW pathogenic infection; allergy-related disorder;
 KW gastrointestinal tract disorder; gastrointestinal hormone disorder;
 KW Chron's disease; eating disorder; polyimmunoglobulin receptor; piGR.
 XX
 OS Homo sapiens.
 XX
 PN WO200228408-A2.
 XX
 PD 11-APR-2002.
 XX
 PF 02-OCT-2001; 2001WO-US030832.
 XX
 PR 02-OCT-2000; 2000US-0237929P.
 PR 13-NOV-2000; 2000US-0248478P.
 PR 14-NOV-2000; 2000US-0248819P.
 PR 09-FEB-2001; 2001US-0267601P.
 XX
 PA (ARIZ-) ARIZEKE PHARM INC.
 XX
 PI Houston LL, Sheridan PJ, Hawley S, Glynn JM, Chapin S, Basu A;
 XX
 DR WPI; 2002-416628/44.
 DR N-PSDB; ABK81192.
 XX
 PT Complex useful for transporting active agent through epithelial barrier,
 PT has biologically active portion and target element directed to ligand
 PT that confers e.g. transcytotic properties to agent specific to ligand.

XX Disclosure; Fig 22; 379pp; English.
 PS
 XX
 CC The invention described a complex or compound (I) comprising a
 CC biologically active portion and a target element (II) directed to a
 CC ligand that confers transcellular, transcytotic or paracellular
 CC transporting properties to an agent specifically bound to the ligand,
 CC where (II) is not an antibody. Alternatively, (I) comprises two or more
 CC (II) directed to one or more ligands. (I) is useful for delivering a
 CC biologically active agent to an animal, for transporting an active agent
 CC through an epithelial or mucosal barrier, and for treating or identifying
 CC a disease in an animal e.g. diseases of the respiratory system including
 CC lung cancer and tumours, asthma, pathogenic infections, allergy-related
 CC disorders, gastrointestinal tract disorders, disorders relating to
 CC gastrointestinal hormones, Chron's disease, eating disorders and any
 CC disease or disorder involving polyimmunoglobulin receptor (piGR)
 CC displaying cells. This is the amino acid sequence of a protein associated
 CC with the transport of biologically active agents across cellular barriers
 XX
 SQ Sequence 217 AA;

Query Match 98.3%; Score 1029.5; DB 5; Length 217;
 Best Local Similarity 93.1%; Pred. No. 9.6e-88;
 Matches 202; Conservative 0; Mismatches 0; Indels 15; Gaps 1;
 QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTPLSLRFDNASLRARHLHQLAFDTYQEF--- 57
 Db 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTPLSLRFDNASLRARHLHQLAFDTYQEFEEA 60
 QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLIQSWLEPVQFLR 105
 Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISLLIQSWLEPVQFLR 120
 QY 106 SVFANSLVYGASDSNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHND 165
 Db 121 SVFANSLVYGASDSNVYDLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHND 180
 QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 202
 Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSCGF 217

RESULT 8
 AAU11742
 ID AAU11742 standard; protein; 217 AA.
 XX
 AC AAU11742;
 DT 12-MAR-2002 (first entry)
 XX
 DE Growth hormone 1 gene (GH1), VI36I mutant.
 XX
 KW Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
 KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
 KW water retention; metabolic syndrome; mood disorder; sleep disorder;
 KW Growth hormone dysfunction; familial growth hormone deficiency;
 KW short stature; pituitary storage defect; human; mutant; mutain.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 136 /note= "Wild type val substituted by Ile"
 FT
 XX
 PN WO200185993-A2.
 XX
 PD 15-NOV-2001.
 XX
 PF 14-MAY-2001; 2001WO-GB002126.
 XX
 PR 12-MAY-2000; 2000GB-00011459.
 PR 14-JUL-2000; 2000EP-00306004.

XX PA (UYWA-) UNIV WALES COLLEGE OF MEDICINE.
XX PT Cooper DN, Procter AM, Gregory J, Millar DS;
XX PI WPI; 2002-089798/12.
XX DR
XX XX
XX PT Detecting growth hormone variants (GH1), useful in screening patients for
XX PT growth hormone irregularities, comprises comparing the nucleotide
XX PT sequence of a GH1 gene from a test sample with that of a standard
XX PT sequence of the human GH1.
XX PS Claim 18; Page; 95pp; English.
XX XX
XX XX The invention described a method of detecting variation in growth hormone
XX CC 1 (GH1), and therefore GH dysfunction in an individual. The method
XX CC comprises comparing the nucleotide sequence of GH1 gene obtained from the
XX CC test sample with a standard human GH1 gene sequence, in order to identify
XX CC variation (GH1 variant). The method is useful in screening patients for
XX CC growth hormone irregularities or producing variant proteins for treating
XX CC irregularities, and for the early detection and appropriate clinical
XX CC management of familial GH deficiency. The GH1 variants are useful in
XX CC therapeutic, diagnostic or detection method, particularly for determining
XX CC binding defects and susceptibility to a disease such as diabetes, obesity
XX CC or infection; for treating acromegaly or gigantism conditions associated
XX CC with lactogenic, diabetogenic, lipolytic and protein anabolic effects,
XX CC conditions associated with sodium and water retention, metabolic
XX CC syndromes, mood and sleep disorders; diagnosing GH dysfunction and
XX CC determining pituitary storage defects. The GH1 variants are especially
XX CC useful in gene therapy or protein therapy. The GH1 or GH variant may also
XX CC be used in the preparation of a medicament, diagnostics composition or
XX CC kit, or detection kit. The method has the advantage of: expanding the
XX CC know spectrum of GH1 gene mutations; evaluating the role of GH1 gene
XX CC mutations in the etiology of short stature; identifying of the mode of
XX CC inheritance of novel lesions; evaluation the effects of GH1 mutations on
XX CC the structure and function of the GH molecule and development of rapid
XX CC diagnostic tests for inherited GH deficiency. This sequence is a variant
XX CC of human growth hormone 1 (GH1), one of many variations of the gene
XX CC discussed in the method of the invention. Note: This sequence does not
XX CC appear in the specification but has been created from the GH1 wild type
XX CC sequence (AAU11719) given in figure 6
XX PS Sequence 217 AA;
XX XX
XX XX Query Match 98.2%; Score 1028.5; DB 5; Length 217;
XX XX Best Local Similarity 92.6%; Pred. No. 1.2e-87;
XX XX Matches 201; Conservative 1; Mismatches 0; Indels 15; Gaps 1;
QY 1 MATGRTSLLIAFGLLCPLWQGSAPPTIPLSRFLFDNASLRAHRLHQLAFDTYQBF--- 57
DB 1 MATGRTSLLIAFGLLCPLWQGSAPPTIPLSRFLFDNASLRAHRLHQLAFDTYQBFEEA 60
QY 58 -----NPQTSLCFSBSIPTPSNREETQQKSNLELRISLLLIQSMLEPVQFLR 105
DB 61 YIPKEQYFQLNPQTSLCFSBSIPTPSNREETQQKSNLELRISLLLIQSMLEPVQFLR 120
QY 106 SVFANSLVYGASDNVYDLKLEBGIQILMGRLEDSPTGQIFKQTSKPTNSHND 165
DB 121 SVFANSLVYGASDNVYDLKLEBGIQILMGRLEDSPTGQIFKQTSKPTNSHND 180
QY 166 ALLKNYGLLYCFKMDKVTFLRIYQCRSVEGSCGF 202
DB 181 ALLKNYGLLYCFKMDKVTFLRIYQCRSVEGSCGF 217

DE XX Growth hormone 1 gene (GH1), I30V mutant.
XX KW Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
XX KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
XX KW water retention; metabolic syndrome; mood disorder; sleep disorder;
XX KW Growth hormone dysfunction; familial growth hormone deficiency;
XX KW short stature; pituitary storage defect; human; mutant; mutein.
XX OS Homo sapiens.
XX OS Synthetic.
XX FH Key Location/Qualifiers
XX FT Misc-difference 30 /note= "Wild type ile substituted by Val"
XX FT
XX XX WO200185993-A2.
XX XX 15-NOV-2001.
XX XX 14-MAY-2001; 2001WO-GB002126.
XX XX 12-MAY-2000; 2000GB-00011459.
XX XX 14-JUL-2000; 2000EP-00306004.
XX XX (UYWA-) UNIV WALES COLLEGE OF MEDICINE.
XX XX Cooper DN, Procter AM, Gregory J, Millar DS;
XX XX WPI; 2002-089798/12.
XX XX Detecting growth hormone variants (GH1), useful in screening patients for
XX PT growth hormone irregularities, comprises comparing the nucleotide
XX PT sequence of a GH1 gene from a test sample with that of a standard
XX PT sequence of the human GH1.
XX PS Claim 18; Page; 95pp; English.
XX XX The invention described a method of detecting variation in growth hormone
XX CC 1 (GH1), and therefore GH dysfunction in an individual. The method
XX CC comprises comparing the nucleotide sequence of GH1 gene obtained from the
XX CC test sample with a standard human GH1 gene sequence, in order to identify
XX CC variation (GH1 variant). The method is useful in screening patients for
XX CC growth hormone irregularities or producing variant proteins for treating
XX CC irregularities, and for the early detection and appropriate clinical
XX CC management of familial GH deficiency. The GH1 variants are especially
XX CC therapeutic, diagnostic or detection method, particularly for determining
XX CC binding defects and susceptibility to a disease such as diabetes, obesity
XX CC or infection; for treating acromegaly or gigantism conditions associated
XX CC with lactogenic, diabetogenic, lipolytic and protein anabolic effects,
XX CC conditions associated with sodium and water retention, metabolic
XX CC syndromes, mood and sleep disorders; diagnosing GH dysfunction and
XX CC determining pituitary storage defects. The GH1 variants are especially
XX CC useful in gene therapy or protein therapy. The GH1 or GH variant may also
XX CC be used in the preparation of a medicament, diagnostics composition or
XX CC kit, or detection kit. The method has the advantage of: expanding the
XX CC know spectrum of GH1 gene mutations; evaluating the role of GH1 gene
XX CC mutations in the etiology of short stature; identifying of the mode of
XX CC inheritance of novel lesions; evaluation the effects of GH1 mutations on
XX CC the structure and function of the GH molecule and development of rapid
XX CC diagnostic tests for inherited GH deficiency. This sequence is a variant
XX CC of human growth hormone 1 (GH1), one of many variations of the gene
XX CC discussed in the method of the invention. Note: This sequence does not
XX CC appear in the specification but has been created from the GH1 wild type
XX CC sequence (AAU11719) given in figure 6
XX PS Sequence 217 AA;
XX XX
XX XX Query Match 98.2%; Score 1028.5; DB 5; Length 217;
XX XX Best Local Similarity 92.6%; Pred. No. 1.2e-87;
XX XX Matches 201; Conservative 1; Mismatches 0; Indels 15; Gaps 1;
QY 1 MATGRTSLLIAFGLLCPLWQGSAPPTIPLSRFLFDNASLRAHRLHQLAFDTYQBF--- 57

Db 1 MATGSRISLLAFGLLCLPWLQEGSAFTVPLSRFLDNASLRHRLHQLAFDTYQEFEEA 60
 Qy 58 -----NQPTSLCFSESIPTPSNRRETOQKSNLELLRISLLLIQSWLEPVQFLR 105
 Db 61 YIPKEQKYSFLQNFQTSLSFSESIPTPSNRRETOQKSNLELLRISLLLIQSWLEPVQFLR 120
 Qy 106 SVFANSLVYGASDSNVYDLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHNDD 165
 Db 121 SVFANSLVYGASDSNVYDLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHNDD 180
 Qy 166 ALLKNYGLLYCFRDMKVKETFLRIVQCRSVEGSGCF 202
 Db 181 ALLKNYGLLYCFRDMKVKETFLRIVQCRSVEGSGCF 217

RESULT 10

AAU11746
 ID AAU11746 standard; protein; 217 AA.
 AC AAU11746;

DT 12-MAR-2002 (first entry)

DE Growth hormone 1 gene (GHI), K194R mutant.

XX Growth hormone 1; GHI; osteopathic; gene therapy; protein therapy;
 KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
 KW water retention; metabolic syndrome; mood disorder; sleep disorder;
 KW Growth hormone dysfunction; familial growth hormone deficiency;
 KW short stature; pituitary storage defect; human; mutant; muten.
 XX

OS Homo sapiens.
 OS Synthetic.

FH Key Location/Qualifiers
 FT Misc-difference 194
 FT /note= "Wild type Lys substituted by Arg"

PN WO200185993-A2.

PD 15-NOV-2001.

XX 14-MAY-2001; 2001WO-GB002126.

XX 12-MAY-2000; 2000GB-00011459.

PR 14-JUL-2000; 2000EP-00306004.

XX (UYWA-) UNIV WALES COLLEGE OF MEDICINE.

PA Cooper DN, Procter AM, Gregory J, Millar DS;

PI WPI; 2002-089798/12.

DR Detecting growth hormone variants (GHI), useful in screening patients for
 PT growth hormone irregularities, comprises comparing the nucleotide
 PT sequence of a GHI gene from a test sample with that of a standard
 PT sequence of the human GHI.

XX Claim 18; Page; 95pp; English.

PS The invention described a method of detecting variation in growth hormone
 XX 1 (GHI), and therefore GH dysfunction in an individual. The method
 CC comprises comparing the nucleotide sequence of GHI gene obtained from the
 CC test sample with a standard human GHI gene sequence, in order to identify
 CC variation (GHI variant). The method is useful in screening patients for
 CC growth hormone irregularities or producing variant proteins for treating
 CC irregularities, and for the early detection and appropriate clinical
 CC management of familial GH deficiency. The GHI variants are useful in
 CC therapeutic, diagnostic or detection method, particularly for determining
 CC binding defects and susceptibility to a disease such as diabetes, obesity
 CC or infection; for treating acromegaly or gigantism conditions associated
 CC with lactogenic, diabetogenic, lipolytic and protein anabolic effects,
 CC conditions associated with sodium and water retention, metabolic

CC syndromes, mood and sleep disorders; diagnosing GH dysfunction and
 CC determining pituitary storage defects. The GHI variants are especially
 CC useful in gene therapy or protein therapy. The GHI or GH variant may also
 CC be used in the preparation of a medicament, diagnostics composition or
 CC kit, or detection kit. The method has the advantage of: expanding the
 CC know spectrum of GHI gene mutations; evaluating the role of GHI gene
 CC mutations in the etiology of short stature; identifying the role of GHI
 CC inheritance of novel lesions; evaluation the effects of GHI mutations on
 CC the structure and function of the GH molecule and development of rapid
 CC diagnostic tests for inherited GH deficiency. This sequence is a variant
 CC of human growth hormone 1 (GHI), one of many variations of the gene
 CC discussed in the method of the invention. Note: This sequence does not
 CC appear in the specification but has been created from the GHI wild type
 CC sequence (AAU11719) given in figure 6

XX Sequence 217 AA;

Query Match 98.0%; Score 1026.5; DB 5; Length 217;
 Best Local Similarity 92.6%; Pred. No. 1.8e-87;
 Matches 201; Conservative 1; Mismatches 0; Indels 15; Gaps 1;

Qy 1 MATGSRISLLAFGLLCLPWLQEGSAFTVPLSRFLDNASLRHRLHQLAFDTYQEF--- 57

Db 1 MATGSRISLLAFGLLCLPWLQEGSAFTVPLSRFLDNASLRHRLHQLAFDTYQEFEEA 60

Qy 58 -----NQPTSLCFSESIPTPSNRRETOQKSNLELLRISLLLIQSWLEPVQFLR 105

Db 61 YIPKEQKYSFLQNFQTSLSFSESIPTPSNRRETOQKSNLELLRISLLLIQSWLEPVQFLR 120

Qy 106 SVFANSLVYGASDSNVYDLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHNDD 165

Db 121 SVFANSLVYGASDSNVYDLLKLEEGIQTLMGRLDGSPRTGQIFKQTSKFDNTSHNDD 180

Qy 166 ALLKNYGLLYCFRDMKVKETFLRIVQCRSVEGSGCF 202

Db 181 ALLKNYGLLYCFRDMKVKETFLRIVQCRSVEGSGCF 217

RESULT 11

AAU11747

ID AAU11747 standard; protein; 217 AA.

AC AAU11747;

DT 12-MAR-2002 (first entry)

DE Growth hormone 1 gene (GHI), K194E mutant.

XX Growth hormone 1; GHI; osteopathic; gene therapy; protein therapy;
 KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
 KW water retention; metabolic syndrome; mood disorder; sleep disorder;
 KW Growth hormone dysfunction; familial growth hormone deficiency;
 KW short stature; pituitary storage defect; human; mutant; muten.

OS Homo sapiens.
 OS Synthetic.

FH Key Location/Qualifiers

FT Misc-difference 194 /note= "Wild type Lys substituted by Glu"

FT WO200185993-A2.

XX 15-NOV-2001.

XX 14-MAY-2001; 2001WO-GB002126.

PR 12-MAY-2000; 2000GB-00011459.

PR 14-JUL-2000; 2000EP-00306004.

PA (UYWA-) UNIV WALES COLLEGE OF MEDICINE.

XX Cooper DN, Procter AM, Gregory J, Millar DS;

PI

XX DR WP1; 2002-089798/12.

XX PT Detecting growth hormone variants (GHI), useful in screening patients for

XX PT growth hormone irregularities, comprises comparing the nucleotide

XX PT sequence of a GHI gene from a test sample with that of a standard

XX PT sequence of the human GHI.

XX PS Claim 18; Page; 95pp; English.

XX CC The invention described a method of detecting variation in growth hormone

XX CC 1 (GHI), and therefore GH dysfunction in an individual. The method

XX CC comprises comparing the nucleotide sequence of GHI gene obtained from the

XX CC test sample with a standard human GHI gene sequence, in order to identify

XX CC variation (GHI variant). The method is useful in screening patients for

XX CC growth hormone irregularities or producing variant proteins for treating

XX CC irregularities, and for the early detection and appropriate clinical

XX CC management of familial GH deficiency. The GHI variants are useful in

XX CC therapeutic, diagnostic or detection method, particularly for determining

XX CC binding defects and susceptibility to a disease such as diabetes, obesity

XX CC or infection; for treating acromegaly or gigantism conditions associated

XX CC with lactogenic, diabetogenic, lipolytic and protein anabolic effects,

XX CC conditions associated with sodium and water retention, metabolic

XX CC syndromes, mood and sleep disorders; diagnosing GH dysfunction and

XX CC determining pituitary storage defects. The GHI variants are especially

XX CC useful in gene therapy or protein therapy. The GHI or GH variant may also

XX CC be used in the preparation of a medicament, diagnostics composition or

XX CC kit, or detection kit. The method has the advantage of: expanding the

XX CC know spectrum of GHI gene mutations; evaluating the role of GHI gene

XX CC mutations in the etiology of short stature; identifying of the mode of

XX CC inheritance of novel lesions; evaluation the effects of GHI mutations on

XX CC the structure and function of the GH molecule and development of rapid

XX CC diagnostic tests for inherited GH deficiency. This sequence is a variant

XX CC of human growth hormone 1 (GHI), one of many variations of the gene

XX CC discussed in the method of the invention. Note: This sequence does not

XX CC appear in the specification but has been created from the GHI wild type

XX CC sequence (AAU11719) given in figure 6

XX SQ Sequence 217 AA;

Query Match 97.9%; Score 1025.5; DB 5; Length 217;

Best Local Similarity 92.6%; Pred. No. 2.3e-87;

Matches 201; Conservative 1; Mismatches 0; Indels 15; Gaps 1;

QY 1 MATGRTSLLAFGLLCPLWLGSAFPTPIPLSRFDNASLRAHRLHQLAFDTYQEF--- 57

DB 1 MATGRTSLLAFGLLCPLWLGSAFPTPIPLSRFDNASLRAHRLHQLAFDTYQEFEEA 60

QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLILQSWLEPVQFLR 105

DB 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELLRISLLILQSWLEPVQFLR 120

QY 106 SVFANSLVYGASDSNVYDLKDLREGIQTLMGRLEDGSPRTGQIFKQTSKFDTHSHND 165

DB 121 SVFANSLVYGASDSNVYDLKDLREGIQTLMGRLEDGSPRTGQIFKQTSKFDTHSHND 180

QY 166 ALLKNYGLLYCRKMDKVETFLRIVQCRSVGSGCF 202

DB 181 ALLKNYGLLYCFREDMDKRVETFLRIVQCRSVGSGCF 217

RESULT 12

AAU11735

ID AAU11735 standard; protein; 217 AA.

XX AC AAU11735;

XX DT 12-MAR-2002 (first entry)

XX DE Growth hormone 1 gene (GHI), E100K mutant.

XX KW Growth hormone 1; GHI; osteopathic; gene therapy; protein therapy;

XX KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;

KW water retention; metabolic syndrome; mood disorder; sleep disorder;

KW Growth hormone dysfunction; familial growth hormone deficiency;

KW short stature; pituitary storage defect; human; mutant; mutein.

XX OS Homo sapiens.

XX OS Synthetic.

XX FH Key Location/Qualifiers

XX FT Misc-difference 100

XX FT /note= "Wild type Glu substituted by Lys"

XX PN WO200185993-A2.

XX XX 15-NOV-2001.

XX PD 14-MAY-2001; 2001WO-GB002126.

XX PF 12-MAY-2000; 2000GB-00011459.

XX PR 14-JUL-2000; 2000EP-00306004.

XX XX (UYWA-) UNIV WALES COLLEGE OF MEDICINE.

XX PA Cooper DN, Procter AM, Gregory J, Millar DS;

XX PI WP1; 2002-089798/12.

XX DR Detecting growth hormone variants (GHI), useful in screening patients for

XX PT growth hormone irregularities, comprises comparing the nucleotide

XX PT sequence of a GHI gene from a test sample with that of a standard

XX PT sequence of the human GHI.

XX PS Claim 18; Page; 95pp; English.

XX CC The invention described a method of detecting variation in growth hormone

XX CC 1 (GHI), and therefore GH dysfunction in an individual. The method

XX CC comprises comparing the nucleotide sequence of GHI gene obtained from the

XX CC test sample with a standard human GHI gene sequence, in order to identify

XX CC variation (GHI variant). The method is useful in screening patients for

XX CC growth hormone irregularities or producing variant proteins for treating

XX CC irregularities, and for the early detection and appropriate clinical

XX CC management of familial GH deficiency. The GHI variants are useful in

XX CC therapeutic, diagnostic or detection method, particularly for determining

XX CC binding defects and susceptibility to a disease such as diabetes, obesity

XX CC or infection; for treating acromegaly or gigantism conditions associated

XX CC with lactogenic, diabetogenic, lipolytic and protein anabolic effects,

XX CC conditions associated with sodium and water retention, metabolic

XX CC syndromes, mood and sleep disorders; diagnosing GH dysfunction and

XX CC determining pituitary storage defects. The GHI variants are especially

XX CC useful in gene therapy or protein therapy. The GHI or GH variant may also

XX CC be used in the preparation of a medicament, diagnostics composition or

XX CC kit, or detection kit. The method has the advantage of: expanding the

XX CC know spectrum of GHI gene mutations; evaluating the role of GHI gene

XX CC mutations in the etiology of short stature; identifying of the mode of

XX CC inheritance of novel lesions; evaluation the effects of GHI mutations on

XX CC the structure and function of the GH molecule and development of rapid

XX CC diagnostic tests for inherited GH deficiency. This sequence is a variant

XX CC of human growth hormone 1 (GHI), one of many variations of the gene

XX CC discussed in the method of the invention. Note: This sequence does not

XX CC appear in the specification but has been created from the GHI wild type

XX CC sequence (AAU11719) given in figure 6

XX SQ Sequence 217 AA;

Query Match 97.9%; Score 1025.5; DB 5; Length 217;

Best Local Similarity 92.6%; Pred. No. 2.3e-87;

Matches 201; Conservative 1; Mismatches 0; Indels 15; Gaps 1;

QY 1 MATGRTSLLAFGLLCPLWLGSAFPTPIPLSRFDNASLRAHRLHQLAFDTYQEF--- 57

DB 1 MATGRTSLLAFGLLCPLWLGSAFPTPIPLSRFDNASLRAHRLHQLAFDTYQEFEEA 60

QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELLRISLLILQSWLEPVQFLR 105

Db 61 YIPKEQKYSFLQNPQTSICFSESIPTPSNRETTQKSNLKLRLISLLLIQSWLEPVQFLR 120
 QY 106 SVFANSILVYGASDSNVYDLLKDLLEGITQTLMGRLDGSPRTGQIFKQYTSKFDTSNHNDD 165
 Db 121 SVFANSILVYGASDSNVYDLLKDLLEGITQTLMGRLDGSPRTGQIFKQYTSKFDTSNHNDD 180
 QY 166 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 202
 Db 181 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 217

RESULT 13
 AAU11744
 ID AAU11744 standard; protein; 217 AA.
 AC AAU11744;
 XX
 DT 12-MAR-2002 (first entry)
 XX
 DE Growth hormone 1 gene (GH1), A18IV mutant.
 XX
 KW Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
 KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
 KW water retention; metabolic syndrome; mood disorder; sleep disorder;
 KW Growth hormone dysfunction; familial growth hormone deficiency;
 KW short stature; pituitary storage defect; human; mutant; mutein.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 181 /note= "Wild type Ala substituted by Val"
 XX
 PN WO200185993-A2.
 XX
 XX 15-NOV-2001.
 XX
 PF 14-MAY-2001; 2001WO-GB002126.
 XX
 PR 12-MAY-2000; 2000GB-00011459.
 PR 14-JUL-2000; 2000EP-00306004.
 XX
 PA (UYWA-) UNIV WALES COLLEGE OF MEDICINE.
 XX
 PI Cooper DN, Procter AM, Gregory J, Millar DS;
 XX WPI; 2002-089798/12.
 DR
 XX
 PT Detecting growth hormone variants (GH1), useful in screening patients for
 PT growth hormone irregularities, comprises comparing the nucleotide
 PT sequence of a GH1 gene from a test sample with that of a standard
 PT sequence of the human GH1.
 XX
 PS Claim 18; Page; 95pp; English.
 XX
 CC The invention described a method of detecting variation in growth hormone
 CC 1 (GH1), and therefore GH dysfunction in an individual. The method
 CC comprises comparing the nucleotide sequence of GH1 gene obtained from the
 CC test sample with a standard human GH1 gene sequence, in order to identify
 CC variation (GH1 variant). The method is useful in screening patients for
 CC growth hormone irregularities or producing variant proteins for treating
 CC irregularities, and for the early detection and appropriate clinical
 CC management of familial GH deficiency. The GH1 variants are useful in
 CC therapeutic, diagnostic or detection method, particularly for determining
 CC binding defects and susceptibility to a disease such as diabetes, obesity
 CC or infection; for treating acromegaly or gigantism conditions associated
 CC with lactogenic, diabetogenic, lipolytic and protein anabolic effects,
 CC conditions associated with sodium and water retention, metabolic
 CC syndromes, mood and sleep disorders; diagnosing GH dysfunction and
 CC determining pituitary storage defects. The GH1 variants are especially
 CC useful in gene therapy or protein therapy. The GH1 or GH variant may also
 CC be used in the preparation of a medicament, diagnostics composition or

CC kit, or detection kit. The method has the advantage of: expanding the
 CC know spectrum of GH1 gene mutations; evaluating the role of GH1 gene
 CC mutations in the etiology of short stature; identifying of the mode of
 CC inheritance of novel lesions; evaluation the effects of GH1 mutations on
 CC the structure and function of the GH molecule and development of rapid
 CC diagnostic tests for inherited GH deficiency. This sequence is a variant
 CC of human growth hormone 1 (GH1), one of many variations of the gene
 CC discussed in the method of the invention. Note: This sequence does not
 CC appear in the specification but has been created from the GH1 wild type
 CC sequence (AAU11719) given in figure 6
 XX
 SQ Sequence 217 AA;
 Query Match 97.9%; Score 1025.5; DB 5; Length 217;
 Best Local Similarity 92.6%; Pred. No. 2.3e-87;
 Matches 201; Conservative 0; Mismatches 1; Indels 15; Gaps 1;
 QY 1 MATGSRSTLLAFGLCLPWLQEGSAPPTPLGRFLDNASLRAHRLHQLAFDTYQEF-- 57
 Db 1 MATGSRSTLLAFGLCLPWLQEGSAPPTPLGRFLDNASLRAHRLHQLAFDTYQEF 60
 QY 58 -----NPTSLCFSESIPTSNRETTQKSNLKLRLISLLLIQSWLEPVQFLR 105
 Db 61 YIPKEQKYSFLQNPQTSICFSESIPTPSNRETTQKSNLKLRLISLLLIQSWLEPVQFLR 120
 QY 106 SVFANSILVYGASDSNVYDLLKDLLEGITQTLMGRLDGSPRTGQIFKQYTSKFDTSNHNDD 165
 Db 121 SVFANSILVYGASDSNVYDLLKDLLEGITQTLMGRLDGSPRTGQIFKQYTSKFDTSNHNDD 180
 QY 166 ALLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 202
 Db 181 VLLKNYGLLYCFRDMKDVETFLRIVQCRSVEGSCGF 217

RESULT 14
 AAU11722
 ID AAU11722 standard; protein; 217 AA.
 XX
 AC AAU11722;
 XX
 DT 12-MAR-2002 (first entry)
 XX
 DE Growth hormone 1 gene (GH1), M1V mutant.
 XX
 KW Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
 KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
 KW water retention; metabolic syndrome; mood disorder; sleep disorder;
 KW Growth hormone dysfunction; familial growth hormone deficiency;
 KW short stature; pituitary storage defect; human; mutant; mutein.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 1 /note= "Wild type Met substituted by Val"
 XX
 PN WO200185993-A2.
 XX
 PD 15-NOV-2001.
 XX
 PF 14-MAY-2001; 2001WO-GB002126.
 XX
 PR 12-MAY-2000; 2000GB-00011459.
 PR 14-JUL-2000; 2000EP-00306004.
 XX
 PA (UYWA-) UNIV WALES COLLEGE OF MEDICINE.
 XX
 PI Cooper DN, Procter AM, Gregory J, Millar DS;
 XX WPI; 2002-089798/12.
 DR
 XX
 PT Detecting growth hormone variants (GH1), useful in screening patients for

PT growth hormone irregularities, comprises comparing the nucleotide
PT sequence of a GH1 gene from a test sample with that of a standard
XX sequence of the human GH1.
PS Claim 18; Page; 95pp; English.
XX
XX The invention described a method of detecting variation in growth hormone
CC 1 (GH1), and therefore GH dysfunction in an individual. The method
CC comprises comparing the nucleotide sequence of GH1 gene obtained from the
CC test sample with a standard human GH1 gene sequence, in order to identify
CC variation (GH1 variant). The method is useful in screening patients for
CC growth hormone irregularities or producing variant proteins for treating
CC irregularities, and for the early detection and appropriate clinical
CC management of familial GH deficiency. The GH1 variants are useful in
CC therapeutic, diagnostic or detection method, particularly for determining
CC binding defects and susceptibility to a disease such as diabetes, obesity
CC or infection; for treating acromegaly or gigantism conditions associated
CC with lactogenic, diabetogenic, lipolytic and protein anabolic effects,
CC conditions associated with sodium and water retention, metabolic
CC syndromes, mood and sleep disorders; diagnosing GH dysfunction and
CC determining pituitary storage defects. The GH1 variants are especially
CC useful in gene therapy or protein therapy. The GH1 or GH variant may also
CC be used in the preparation of a medicament, diagnostics composition or
CC kit, or detection kit. The method has the advantage of: expanding the
CC know spectrum of GH1 gene mutations; evaluating the role of GH1 gene
CC mutations in the etiology of short stature; identifying of the mode of
CC inheritance of novel lesions; evaluation the effects of GH1 mutations on
CC the structure and function of the GH molecule and development of rapid
CC diagnostic tests for inherited GH deficiency. This sequence is a variant
CC of human growth hormone 1 (GH1), one of many variations of the gene
CC discussed in the method of the invention. Note: This sequence does not
CC appear in the specification but has been created from the GH1 wild type
CC sequence (AAU11719) given in figure 6
XX
XX Sequence 217 AA;
Query Match 97.9%; Score 1025.5; DB 5; Length 217;
Best Local Similarity 92.6%; Pred. No. 2.3e-87;
Matches 201; Conservative 1; Mismatches 0; Indels 15; Gaps 1;
QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLDNASRAHRLHQLAFDTYQEF--- 57
Db 1 VATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLDNASRAHRLHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELRISLLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELRISLLIQSWLEPVQFLR 120
QY 106 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQGIKQYTSKFTDTHSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQGIKQYTSKFTDTHSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 202
Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 217
RESULT 15
AAU11728
ID AAU11728 standard; protein; 217 AA.
XX
XX AAU11728;
XX
XX 12-MAR-2002 (first entry)
XX
XX Growth hormone 1 gene (GH1), Q48R mutant.
XX
XX Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
KW water retention; metabolic syndrome; mood disorder; sleep disorder;
KW Growth hormone dysfunction; familial growth hormone deficiency;
KW short stature; pituitary storage defect; human; mutant; mutain.
XX

OS Homo sapiens.
OS Synthetic.
PH Key Location/Qualifiers
FT Misc-difference 48 /note= "Wild type Gln substituted by Arg"
PT
XX WC200185993-A2.
XX
XX 15-NOV-2001.
XX
XX 14-MAY-2001; 2001WO-GB002126.
XX
XX 12-MAY-2000; 2000GB-00011459.
XX
XX 14-JUL-2000; 2000EP-00306004.
XX
XX (UYWA-) UNIV WALES COLLEGE OF MEDICINE.
XX
XX Cooper DN, Procter AM, Gregory J, Millar DS;
XX WPI; 2002-089798/12.
XX
XX Detecting growth hormone variants (GH1), useful in screening patients for
XX growth hormone irregularities, comprises comparing the nucleotide
XX sequence of a GH1 gene from a test sample with that of a standard
XX sequence of the human GH1.
XX
XX Claim 18; Page; 95pp; English.
XX
XX The invention described a method of detecting variation in growth hormone
XX 1 (GH1), and therefore GH dysfunction in an individual. The method
XX comprises comparing the nucleotide sequence of GH1 gene obtained from the
XX test sample with a standard human GH1 gene sequence, in order to identify
XX variation (GH1 variant). The method is useful in screening patients for
XX growth hormone irregularities or producing variant proteins for treating
XX irregularities, and for the early detection and appropriate clinical
XX management of familial GH deficiency. The GH1 variants are useful in
XX therapeutic, diagnostic or detection method, particularly for determining
XX binding defects and susceptibility to a disease such as diabetes, obesity
XX or infection; for treating acromegaly or gigantism conditions associated
XX with lactogenic, diabetogenic, lipolytic and protein anabolic effects,
XX conditions associated with sodium and water retention, metabolic
XX syndromes, mood and sleep disorders; diagnosing GH dysfunction and
XX determining pituitary storage defects. The GH1 variants are especially
XX useful in gene therapy or protein therapy. The GH1 or GH variant may also
XX be used in the preparation of a medicament, diagnostics composition or
XX kit, or detection kit. The method has the advantage of: expanding the
XX know spectrum of GH1 gene mutations; evaluating the role of GH1 gene
XX mutations in the etiology of short stature; identifying of the mode of
XX inheritance of novel lesions; evaluation the effects of GH1 mutations on
XX the structure and function of the GH molecule and development of rapid
XX diagnostic tests for inherited GH deficiency. This sequence is a variant
XX of human growth hormone 1 (GH1), one of many variations of the gene
XX discussed in the method of the invention. Note: This sequence does not
XX appear in the specification but has been created from the GH1 wild type
XX sequence (AAU11719) given in figure 6
XX
XX Sequence 217 AA;
Query Match 97.9%; Score 1025.5; DB 5; Length 217;
Best Local Similarity 92.6%; Pred. No. 2.3e-87;
Matches 201; Conservative 1; Mismatches 0; Indels 15; Gaps 1;
QY 1 MATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLDNASRAHRLHQLAFDTYQEF--- 57
Db 1 VATGSRSTLLAFGLLCLPWLQEGSAFPTIPLSRFLDNASRAHRLHQLAFDTYQEF 60
QY 58 -----NPQTSLCFSESIPTPSNREETQOKSNLELRISLLIQSWLEPVQFLR 105
Db 61 YIPKEQKYSFLQNPQTSLCFSESIPTPSNREETQOKSNLELRISLLIQSWLEPVQFLR 120
QY 106 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQGIKQYTSKFTDTHSHND 165
Db 121 SVFANSLVYGASDSNVYDLLKDLREGIQTLMGRLEDGSPRTQGIKQYTSKFTDTHSHND 180
QY 166 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 202
Db 181 ALLKNYGLLYCFRKMDKVETFLRIVQCRSVEGSGCF 217
RESULT 15
AAU11728
ID AAU11728 standard; protein; 217 AA.
XX
XX AAU11728;
XX
XX 12-MAR-2002 (first entry)
XX
XX Growth hormone 1 gene (GH1), Q48R mutant.
XX
XX Growth hormone 1; GH1; osteopathic; gene therapy; protein therapy;
KW diabetes; obesity; infection; acromegaly; gigantism; sodium retention;
KW water retention; metabolic syndrome; mood disorder; sleep disorder;
KW Growth hormone dysfunction; familial growth hormone deficiency;
KW short stature; pituitary storage defect; human; mutant; mutain.
XX

Db 121 SVFANSUVYGASDSNVYDLLKDLLEEGIQTLMGRLDGSPRTGQIFKQYISKFDTNSHDD 180
Qy 166 ALLKNYGLLYCFRKMDKVKETFLRIVQCRSVEGSCGF 202
Db 181 ALLKNYGLLYCFRKMDKVKETFLRIVQCRSVEGSCGF 217

Search completed: July 12, 2004, 13:03:54
Job time : 63 secs

